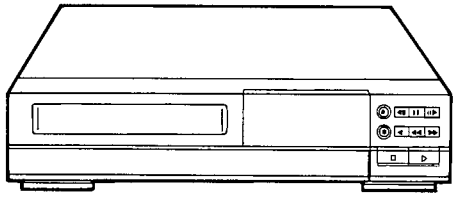
HITACHI

SERVICE MANUAL



TK | No.8806E

VT-L1200E

AF MECHANISM

This model uses a AF MECHANISM.
Refer to the following manual for the AF MECHANISM.

Manuals releted to the VT-L1200E

Name of manual	Manual No.
AF Mechanism	4412E
VT-L1100E	8609E

VHS

This video deck is a VHS type video recorder. For proper operation, only the VHS type cassette must be used.

SPECIFICATIONS AND PARTS ARE SUBJECT TO CHANGE FOR IMPROVEMENT

VIDEO CASSETTE RECORDER

November 1998 AV Consumer Products Division, Tokai

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts have special safety-related characteristics. These are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for a higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual. Electrical components having such features are identified by marking with a ⚠ on the schematics and the parts list in this Service Manual. The use of a substitute replacement component which does not have the same safety characteristics as the HITACHI recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards. Product safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current HITACHI Service Manual. A subscription to, or additional copies for, HITACHI Service Manual may be obtained at a nominal charge from HITACHI SALES CORPORATION.

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The AF mechanism is used as the mechanical block of this VCR. Refer to the following manual when dismantling the mechanical section
◆ AFmechanism edition (No.4412E)
"CHAPTER 1 DISASSEMBLY"

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The AF mechanism is used as the mechanical block of this VCR. Refer to the following manual when dismantling the mechanical section
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"CHAPTER 2 MECHANISM ADJUSTMENT"
"CHAPTER 3 MAINTENANCE AND INSPECTION"
◆ VT-L1100E (No.8609E)
"CHAPTER 3 MECHANISM ADJUSTMENT"

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CHAPTER 1 GENERAL INFORMATION

1. SPECIFICATIONS

Video Cassette:	VHS type
Recording:	Rotary two-head helical scan azimuth recording
Tape Speed:	23.39 mm/sec. (03mode)
Tape Width:	12.7 mm
Operation Temperature:	5℃ to 40℃
Video:	PAL colour (system I) & CCIR monochrome signals (625 lines)
Recording Lengths:	3, 12, 24
Video Input:	1 Vp-p 75 ohm unbalanced
Video Output:	1 Vp-p 75 ohm unbalanced
S/N Ratio (Video):	More than 42dB (03 mode)
S/N Ratio (Audio):	More than 40 dB (03 mode)
Horizontal Resolution:	Colour: 240 lines (03 mode) Monochrome: 350 lines (03 mode)
Audio Input:	-8dBm 50 Kohm unbalanced
Audio Output:	-9dBm 600 ohm unbalanced
Audio Frequency Range:	100 Hz to 8 kHz (03 mode)
Power:	AC 230V, 50Hz
Power Consumption:	23W
Cabinet Size:	435 mm (W) × 94 mm (H) × 366 mm(D)
Weight:	Approx. 6.2 kg

* Design and specifications are subject to change without notice.

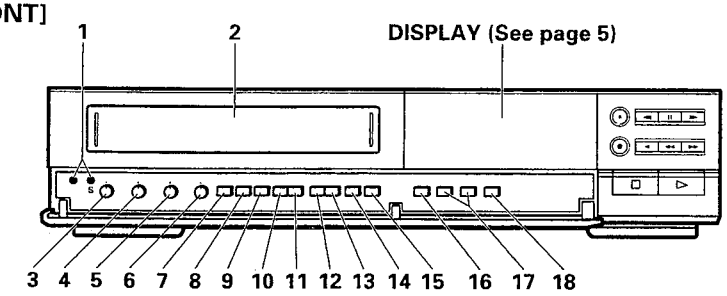
2. COMPARISON OF FEATURES

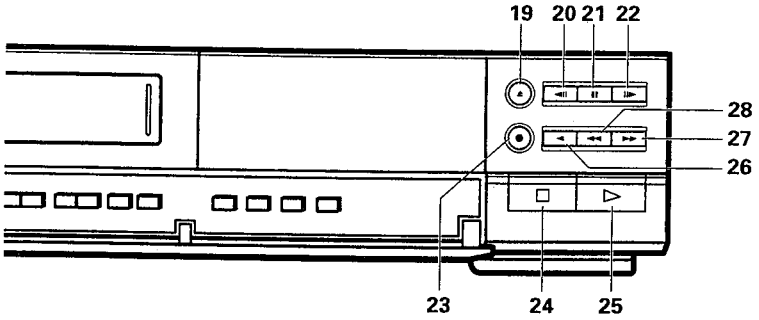
←: Same as left

	ITEM		VT-L1200E	VT-L2300E
EATUR	Format		VHS	←
	OSD		Yes	←
	Video Rec Mode		03 / 12 / 24	03 / 12 / 24 / 48 / 72 / 120 / 168 / 240
	Video Play Mode		03 / A12 / A24 / 24	03 / A12 / A24 / 24 / 48 / 72 / 120 / 168 / 240
	Audio Rec Mode		03/12/24	←
	Audio Play Mode		03 / A12 / A24	←
	Reverse Play		Yes (1Min)	←
	F.Advance		Yes	←
	Reverse F.Advance		Yes	←
	Fine Still		Yes	←
	Rec Check		Yes	←
	Timer Rec Programm		7 Pro/Week, 2Pro/Day	←
	Alarm Rec Mode		03 / 12 / 24	03 / 12 / 24 / 48 / 72 / 120 / 168 / 240
	Alarm Rec Time		5Sec / 15Sec / 30Sec / 1Min / 3Min / 5Min / 10Min / 30Min / 60Min / TAPE END / Manual	←
	One Shot Rec		No	Yes
	Memory Back Up Time		720 Hr	←
	Tape Speed Display		Yes	←
	Mode Lock		Yes	←
	Version Display		Yes	←
	Buzzer		Yes	←
	Trouble Mode		Yes	←
INPUT/OUTPUT TERMINAL	Video Input/Output		BNC 1 System	←
	Audio Input/Output		US 1 System	←
	Interface(RS-232C) Connector		No	←
	15 Pin Plug	1	Alarm In	←
		2	Alarm Out	←
		3	-	One Shot In
		4	Tape End Out	←
		5	Tape End Reset	←
		6	Warning	←
		7	NC	←
		8	Time Adj	←
		9	Camera Sw Out	←
		10	Rec Start In	←
		11	Chroma 25Hz	←
		12	Reverse	←
		13	(Remote In)	←
		14	Rec Check In	←
		15	Gnd	←
CHASSIS	Basic		AF Chassis	←
	Video Heads		DA 4 Head SP : 57 / 57 μ m	←
	Auto Heads Cleaning		Yes	←
	Rewind Time		E-180 2.5 Min	←

CONTROLS AND FUNCTIONS

[FRONT]





1. RESET BUTTONS
Press these buttons at the same time to clear all (microprocessor) functions
Press the "S" button to reset the system (This does not erase the stored information)

2 CASSETTE COMPARTMENT

3 SHARPNESS CONTROL
Adjust the picture quality to hard or soft during playback

4 TRACKING CONTROL
Adjust to optimize the picture quality during playback at the 03, A12 and A24 hour speeds

5. SLOW TRACKING CONTROL
Adjust to optimize the picture quality in the SLOW PLAY mode, e g 24 hours speed

6. V. LOCK CONTROL
Reduces vertical jitter in the still play mode

7. PROGRAM BUTTON
Press to select one of the six programmable functions

8 START/STOP BUTTON
Press to start or stop the programming of a programmable function (Press once to start the programming sequence and a second time to stop (end) it)

9 SET BUTTON
Press to select the specific value which is to be changed with the UP/DOWN buttons

10 DOWN BUTTON
Press to decrement, change or reverse to the previous/lower value

11 UP BUTTON
Press to increase, change or advance to the next higher value

12 V-POS (VERTICAL POSITION) BUTTON
Press repeatedly to control the vertical position of the programmable display on the monitor

13. H-POS (HORIZONTAL POSITION) BUTTON
Press repeatedly to control the horizontal position of the programmable display on the monitor.

14 ALARM INDEX BUTTON
Press this button to cause the INDEX indicator to light, and set the VCR to the visual search mode (press F FWD or REWIND during playback mode) in this state; the start of the alarm recorded can be located

15. ALARM RESET BUTTON
Press to clear POWER LOSS information When this button is pressed when the Alarm Memory screen is being displayed, the alarm memory is cleared

16. COUNTER RESET BUTTON
Press to clear the digital counter to "0000"

17. REC/PLAY HOURS BUTTONS
▲ (UP): Press to increase hours to the next higher value
▼ (DOWN): Press to decrease hours to the next lower value The tape speed will be indicated as part of the monitor display

18 TIMER BUTTON
Press after programming the TIMER for automatic TIMER recording See page 13 for TIMER programming

19 EJECT BUTTON
Press to remove the cassette The EJECT button will not operate in the RECORD mode.

20. FIELD REVERSE BUTTON
Press to reverse the tape by one field in the STILL playback mode

21. STILL BUTTON
Press to momentarily stop tape motion in the play mode The STILL function allows close inspection of individual scenes See the description of STILL playback on page 20

22 FIELD ADVANCE BUTTON
Press to advance the tape one field in the STILL playback mode

23 RECORD BUTTON
Press to start recording

24. STOP BUTTON
Press to stop the tape The STOP button must be pressed to end the RECORD and PLAY mode

25 PLAY BUTTON
Press to play recorded material in the forward direction Pressing this during recording makes it possible to check recordings

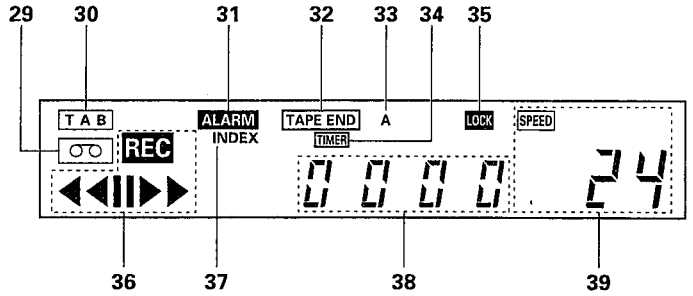
26 REVERSE PLAY BUTTON
Press to play recorded material at the 03 speed in the reverse direction during the PLAY mode

27. FAST FORWARD/VISUAL SEARCH BUTTON
Press to activate fast forward
Press this button during playback and a forward playback picture at high speed can be seen

28 REWIND/VISUAL SEARCH BUTTON
Press to start rewind
Press this button during playback and a reverse playback picture at high speed can be seen.

CONTROLS AND FUNCTIONS (Continued)

[DISPLAY]



29. TAPE-IN INDICATOR
Lights when a cassette is in the compartment

30 TAB INDICATOR
Lights when a cassette without its safety tab is loaded

31. ALARM INDICATOR
ALARM appears during alarm recording
ALARM flashes when alarm recording ends

32. TAPE END INDICATOR
Lights when the tape reaches the end during recording
Note: "TAPE END" is not displayed when you have selected REWIND, RE-REC in the "RECYCLE FUNCTIONS" menu in the alarm display or you have selected REWIND, STOP IF ALARM but an alarm recording has not been made.

33. A INDICATOR
Lights when no video signal is input. Video signal input will turn this indicator off automatically.

34. TIMER INDICATOR
This is lit during timer recording or TIMER stand-by mode
The indicator flashes in the following cases.
- A cassette is not loaded
- A cassette without its safety tab is loaded
- The timer has not been programmed

35. LOCK INDICATOR
LOCK appears when the recorder is in the security lock mode

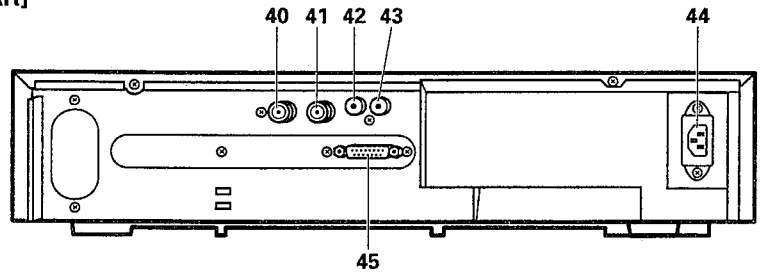
36. VCR MODE INDICATORS
- REC appears during recording
- ◀◀ appears during the rewind mode
- ▶▶ appears during the fast forward mode
- ◀◀ (or ▶▶) flashes during visual search
- ▶ appears during the playback mode
- ◀ appears during the reverse play mode
- ❚❚ appears when the STILL button is pressed during play mode and disappears when the STILL or PLAY button is pressed again
- ◀❚❚ (or ❚❚▶) appears while the FIELD REV (or FIELD ADV) is held depressed in the still playback mode
  Note: Still playback is restored when the FIELD REV (or FIELD ADV) button is released

37. INDEX INDICATOR
INDEX appears when the ALARM INDEX button is pressed
INDEX disappears when the ALARM INDEX button is pressed again
INDEX flashes during alarm indexing

38 DIGITAL COUNTER
Shows the tape counter The counter does not count during non-recorded sections of a tape

39. TAPE SPEED INDICATOR
Shows the tape speed

[REAR]



40. VIDEO IN
Receives video signal from a video camera or another VCR.

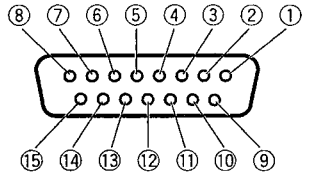
41. VIDEO OUT
For connection to monitor

42. AUDIO IN
Accepts an audio signal from a camera, external sound equipment or another recorder (Line: –8 dBm, 50 Kohm, unbalanced).

43. AUDIO OUT
Provides an audio output for a monitor or another recorder (–9 dBm, 600 ohm, unbalanced)

44 AC INLET

45. EXTERNAL INTERFACE (15-PIN) JACK
Connect an alarm switch, door sensor, etc using the 15-pin adapter provided.



① ALARM IN
② ALARM OUT
③ —
④ TAPE END OUT
⑤ TAPE END RESET
⑥ WARNING OUT
⑦ NC
⑧ TIME ADJUST
⑨ CAMERA SW OUT
⑩ REC START IN
⑪ CHROMA 25
⑫ REVERSE
⑬ REMOTE IN
⑭ REC CHECK IN
⑮ GND

CHAPTER 2 DISASSEMBLY

1.CASES AND CIRCUIT BOARDS SECTION

1.BEFORE STARTING DISASSEMBLY

[Removal Procedure]
Dismantle each component in numerical order [(A),(B),(C),...].

[Reinstallation Procedure]
Reinstall eachcomponent in the reverse order to removal when otherwise not specified.

Identifications and Locations of Circuit Boards

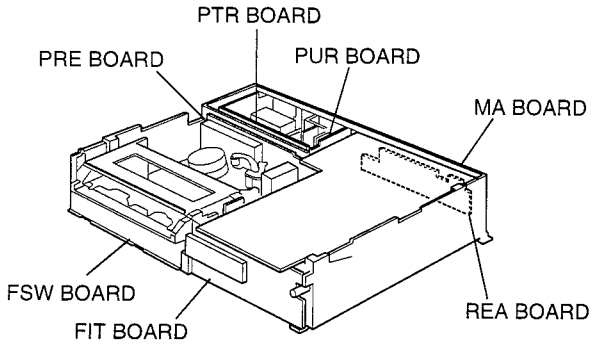


Fig. 1-1 Top View

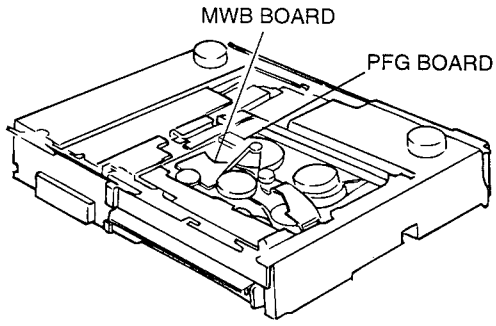


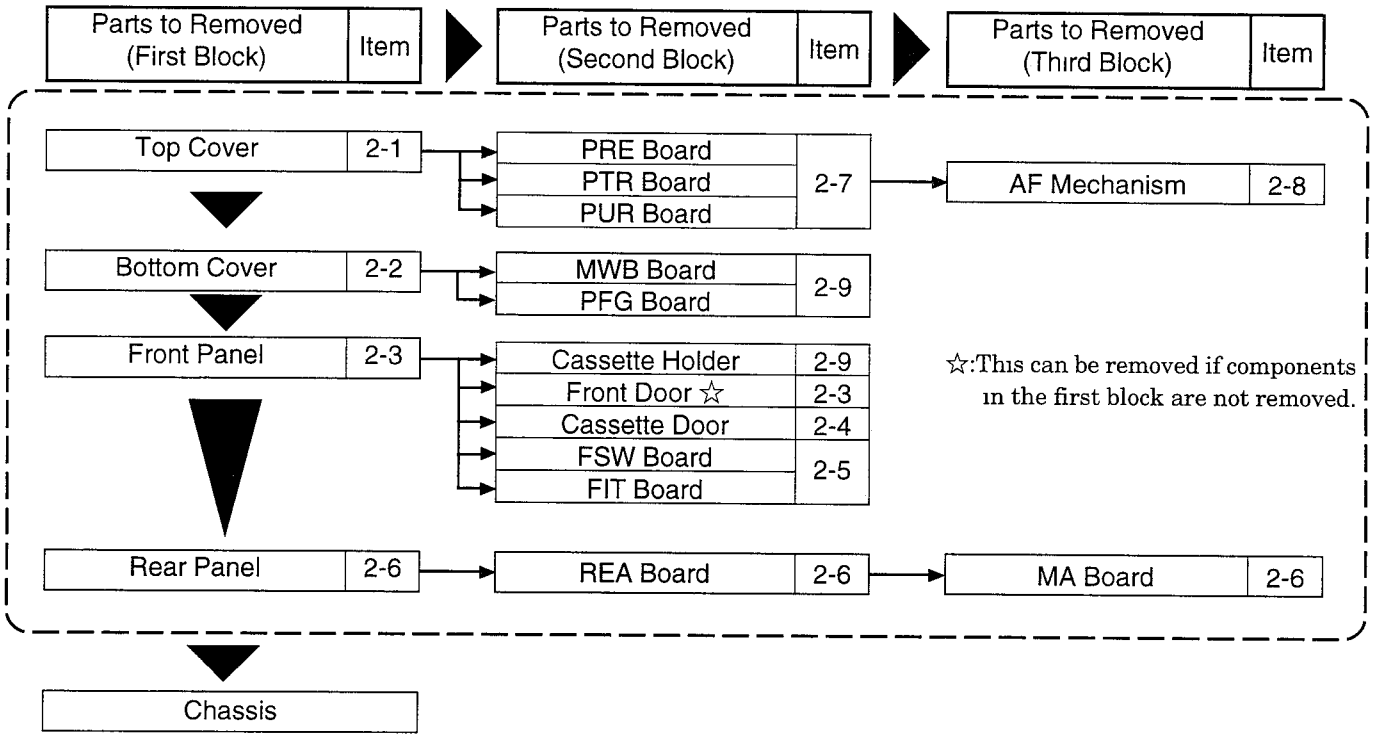
Fig. 1-2 Bottom View

2.DISASSEMBLY PROCEDURE

[How to use the parts hierarchy chart]
1)Locate the part to be replaced.
2)Check the parts in the ranks above the part to be replaced and start dismantling.
3)Replace the difective part and reinstall the parts in the reverse order to that show in the parts hierachry chart.

[Cautions]
1)Dismantle parts in the eject state.
2)Parts can be dismantled in a different way from that shwn here.

Parts Heirarchy Chart



Disassembly Procedure Diagram

2-1	Top Cover

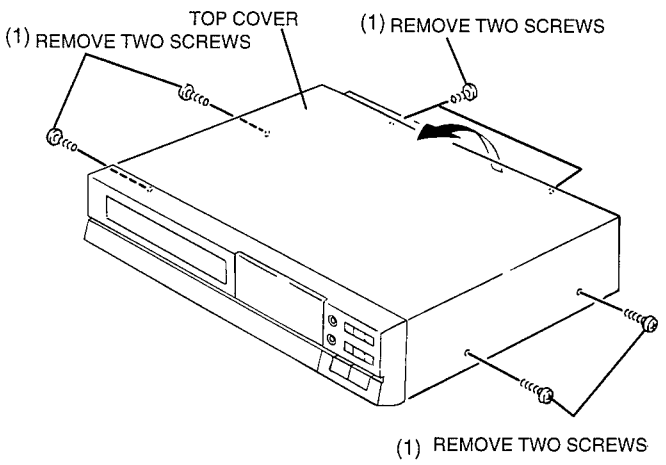


Fig. 2-1

2-2	Bottom Cover

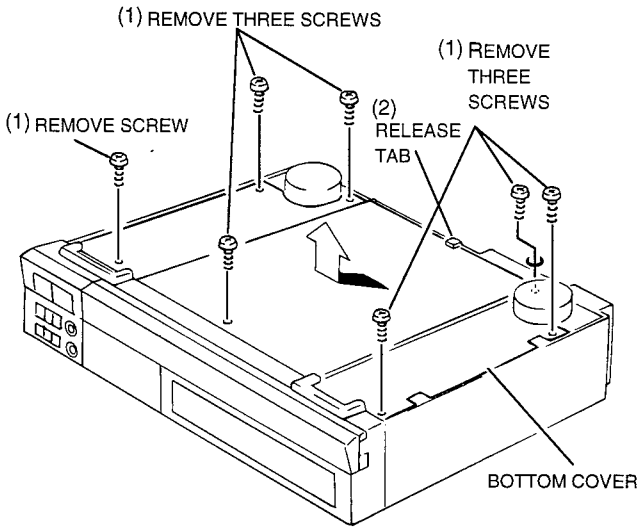


Fig. 2-2

2-3	Front Panel / Front Door

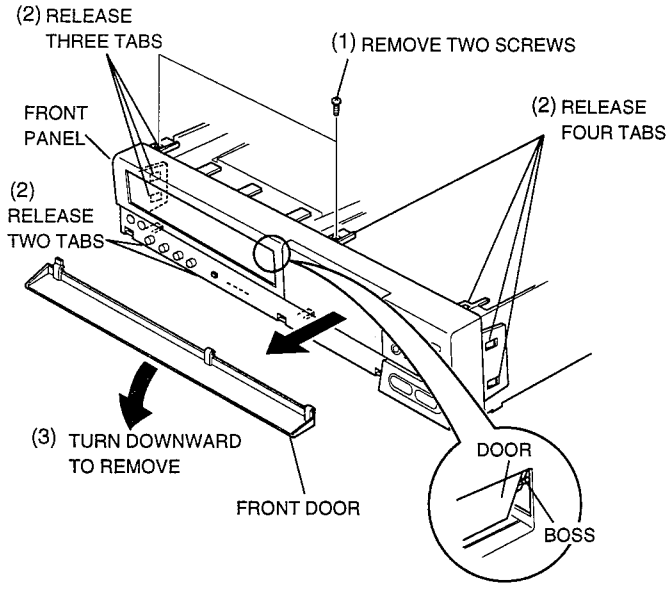


Fig. 2-3

2-4	Cassette Door

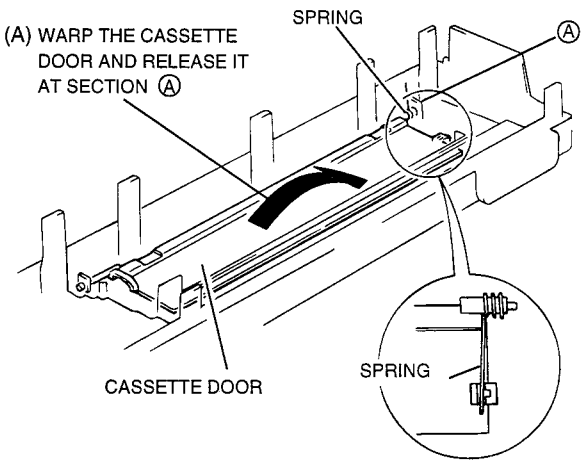


Fig. 2-4

2-5	FSW Board / FIT Board

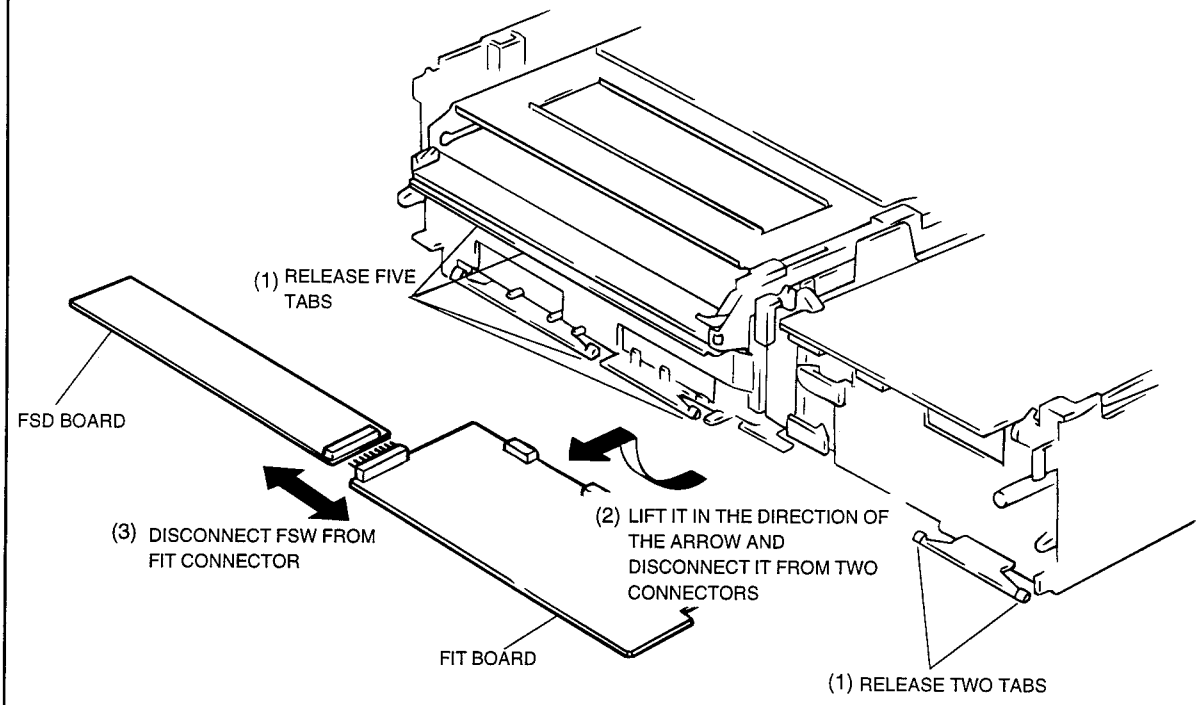


Fig. 2-5

2-6	Rear Panel / MA Board / REA Board

★ 1: This screw have a different shape from other screws.

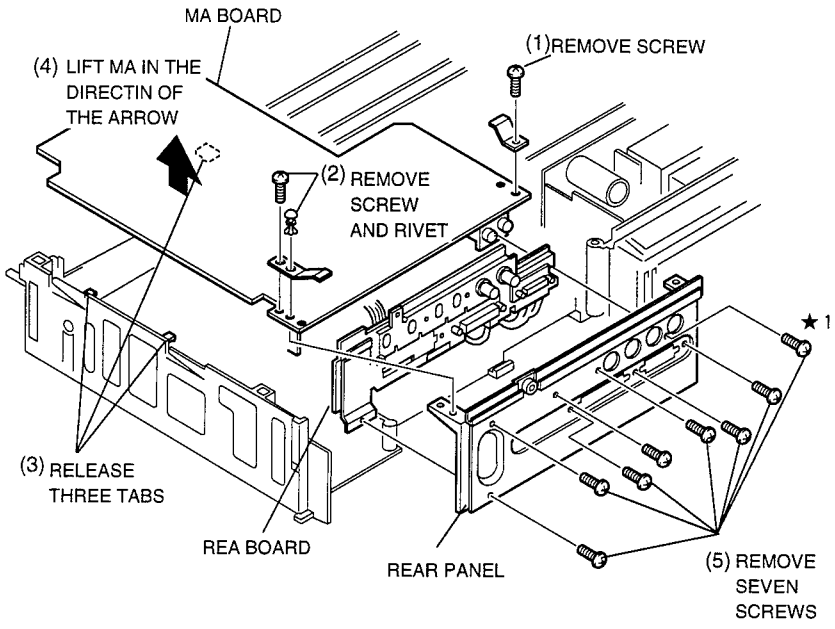


Fig. 2-6

2-7 PRE Board / PTR Board / PUR Board

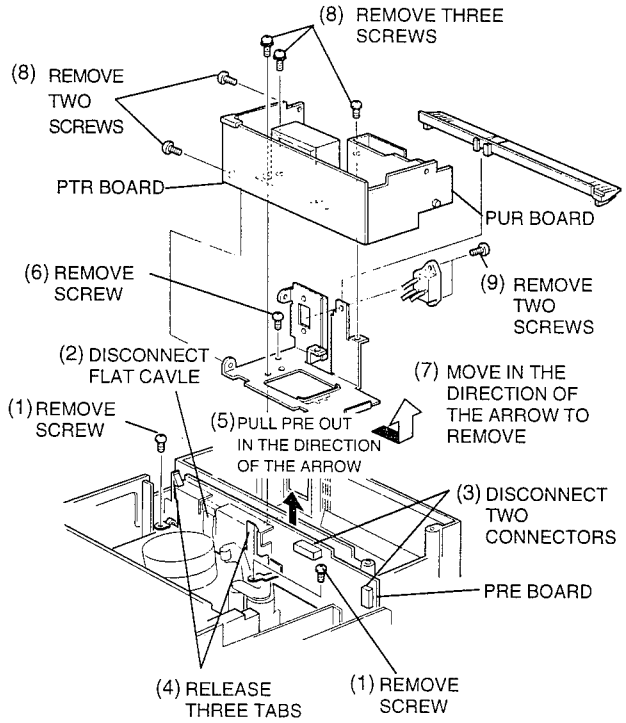


Fig. 2-7

2-8 Cassette Holder / AF Mechanism

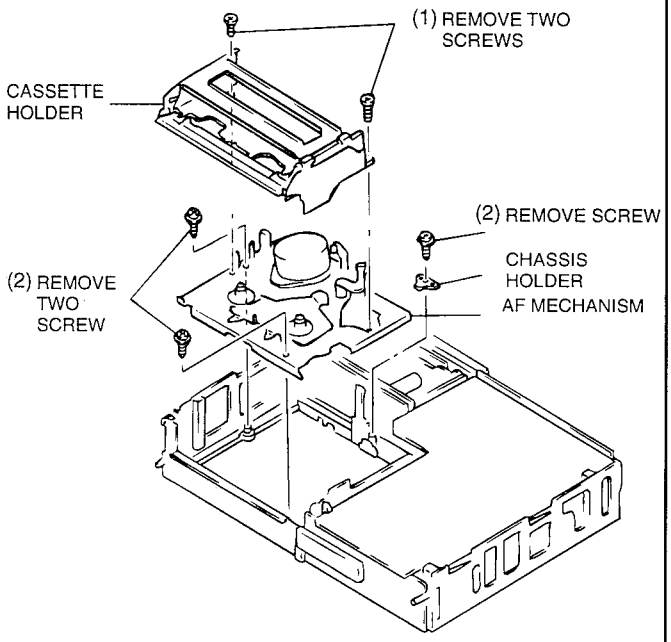


Fig. 2-8

2-9 MWB Board / PFG Board

★ 1: When reinstalling the mode gear, be sure to match its phase (position).
(See the AF mechanism edition.)

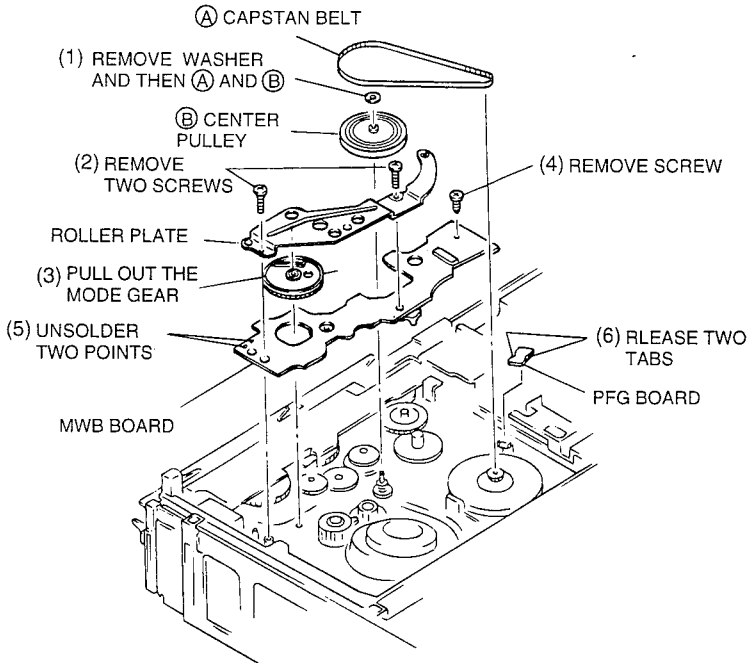


Fig. 2-9

2.MECHANISM SECTION

The AF mechanism is used as the mechanical section of this VCR. Refer to the following manual when dismantling the mechanical section.

◆ AF Mechanism edition (No.4412E) "CHAPTER 1 DISASSEMBLY"

1.PHOTOS OF MECHANISM (Refer to these photos when reinstalling)

1) Top view of Mechanism

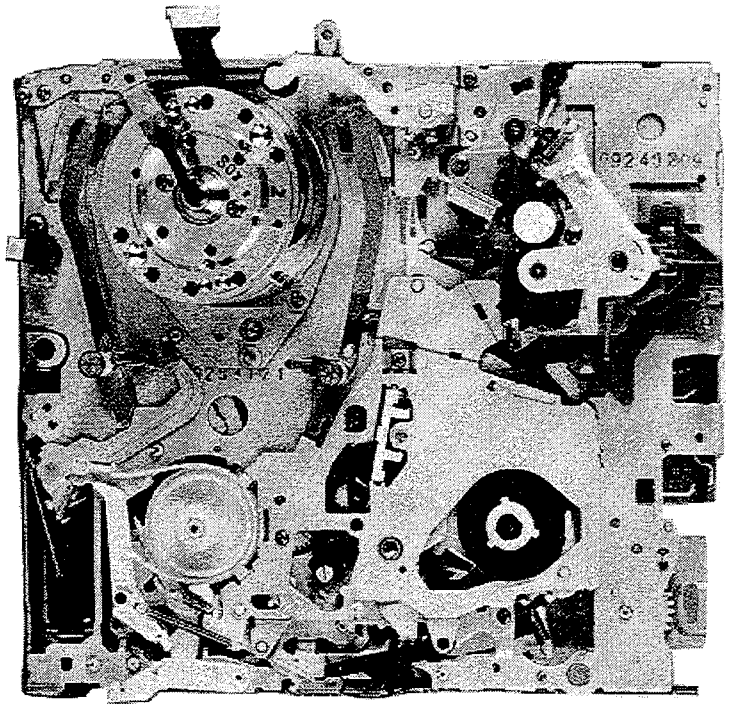


Fig. 2-10

2) Bottom view of Mechanism

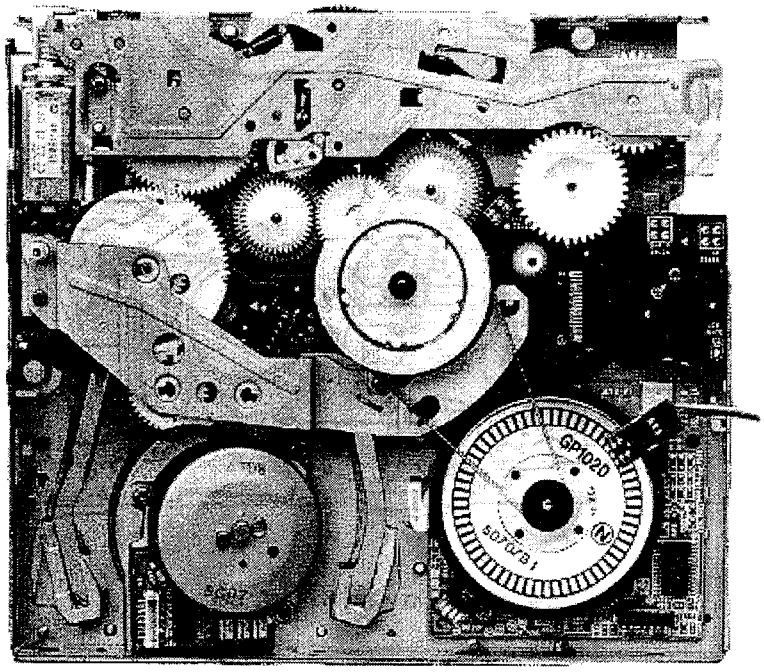


Fig. 2-11

MEMO

CHAPTER 4 ELECTRIC CIRCUIT ADJUSTMENT

1.Circuit Board Locations and Adjustment / Service Position

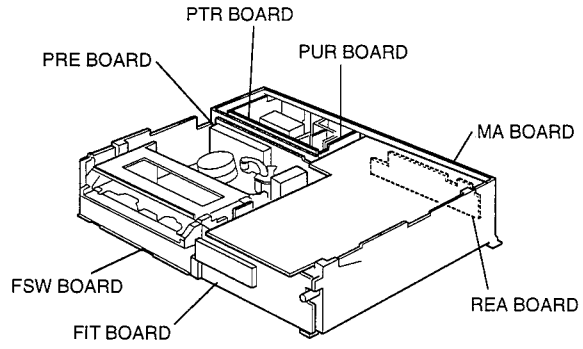


Fig. 4-1

2.Test Equipment and Tapes Necessary for Adjustments

1) Dual-trace oscilloscope
2) Colour bar generator
3) Colour monitor TV (with A/V jacks)
4) Digital voltmeter (DVM)
5) VTVM
6) Alignment tape (30HMPE-3)
7) Blank tape

3.Before Starting Adjustment

1)The following conditions apply when otherwise not specified.
- Oscilloscipe probe → 10:1
- Oscilloscope synchronisation → Internal sync
- Ground of test equipment → TP1605, TP3002 (MA board)

2)When performing more than one adjustment, follow the order of times shown here.

4.Preset Position of Switches and Controls During Adjustment

1)Positions of controls
- SHARPNESS CONTROL : Optimum position
- TRACKING : Center
- SLOW TRACKING . Center
- V.LOCK : Optimum position

2)OSD Setting [SELECTION MENU]
- VIDEO MODE : AUTO
- SEARCH SPEED . × 5
- CAMMERA SW : 12 ~
- FS MODE : OFF

※:The OSD positions are set at the factory above.

5.Procedure to Reset (Initialize) the VCR

This VCR can be reset to the state set at the factory by the following procedure.

Table. 4-1

	IC	Procedure	Object to be reset
1	System control μ P(IC1901)	Press [S1303]	System control
		Press [S1303] and [S1311] simultaneously	· Timer · OSD settings · System control
2	EEP ROM (IC1903)	Press [REV.PLAY] [SET] and [ALARM RESET] simultaneously	· Trouble memory · Cylinder use time (◆) Total use time

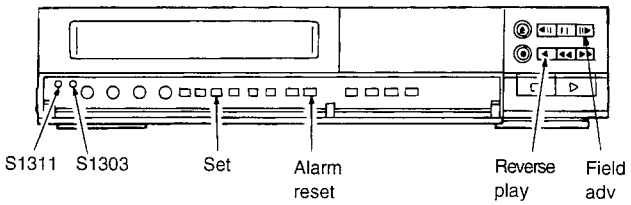


Fig. 4-2

◆:Cylinder time of use
This VCR has function which displays the accumulated time of cylinder rotation as a reference for cylinder replacement. Be careful as all data including the accumulated time is cleared when the EEP ROM is initialized.
The following shows the display of the cylinder time of use and how to reset it without resetting other values.

- Display method (the total use time is also displayed) Press [F.ADV] and [SET] simultaously (displayed in the OSD).
- Resetting the time of use only Short TP1604 to ground.

6.Connecting Test Equipment

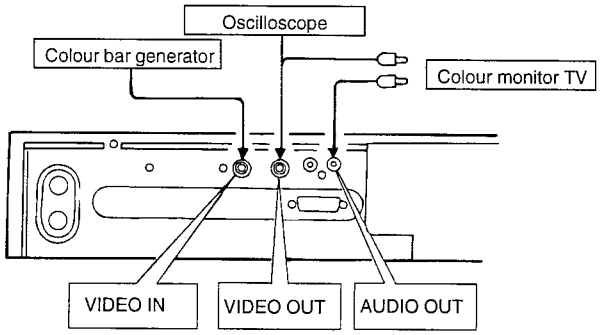


Fig. 4-3

7.Location of Components on Circuit Boards

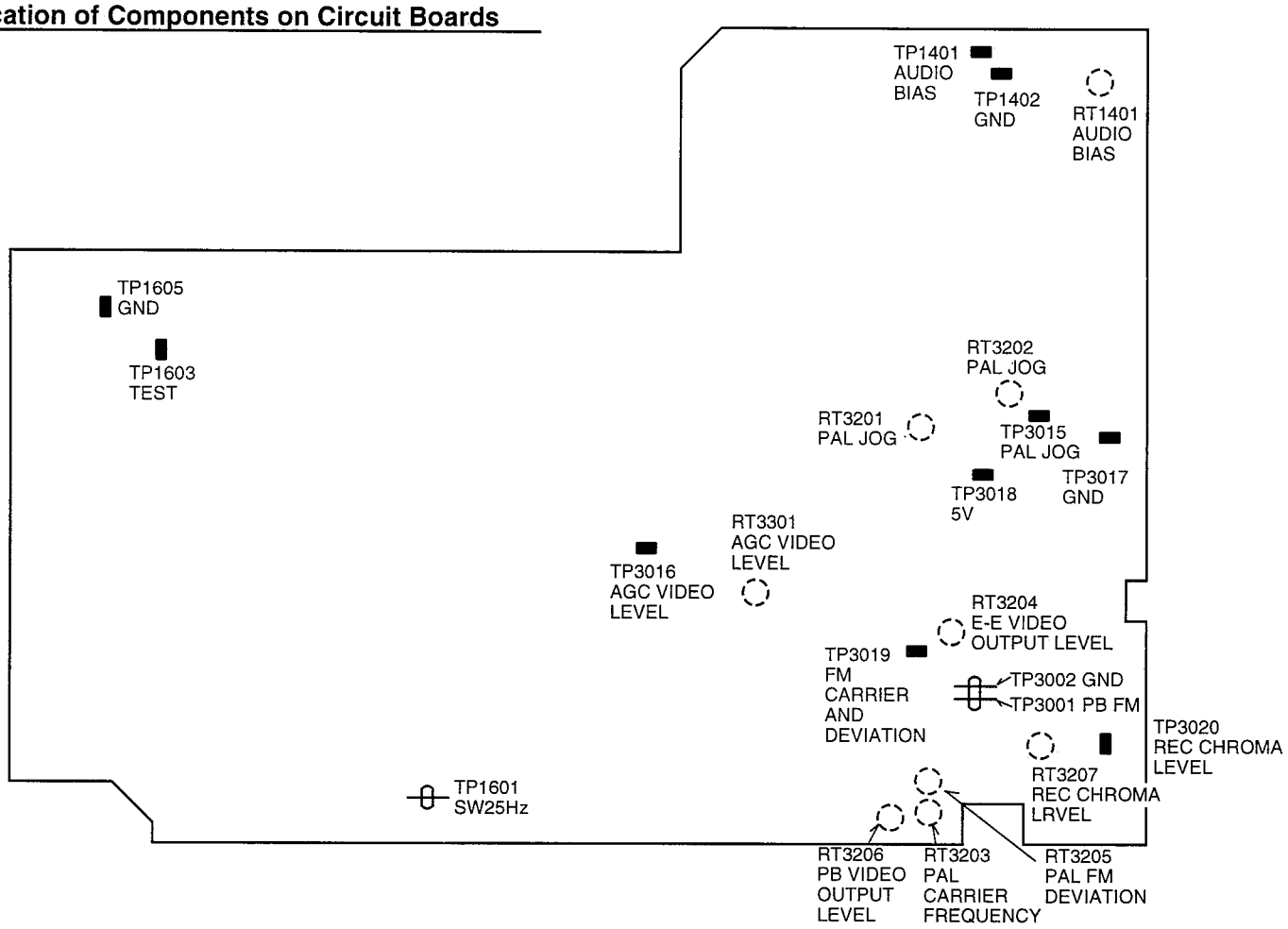


Fig. 4-4 Main (MA) Circuit Board [Side B]

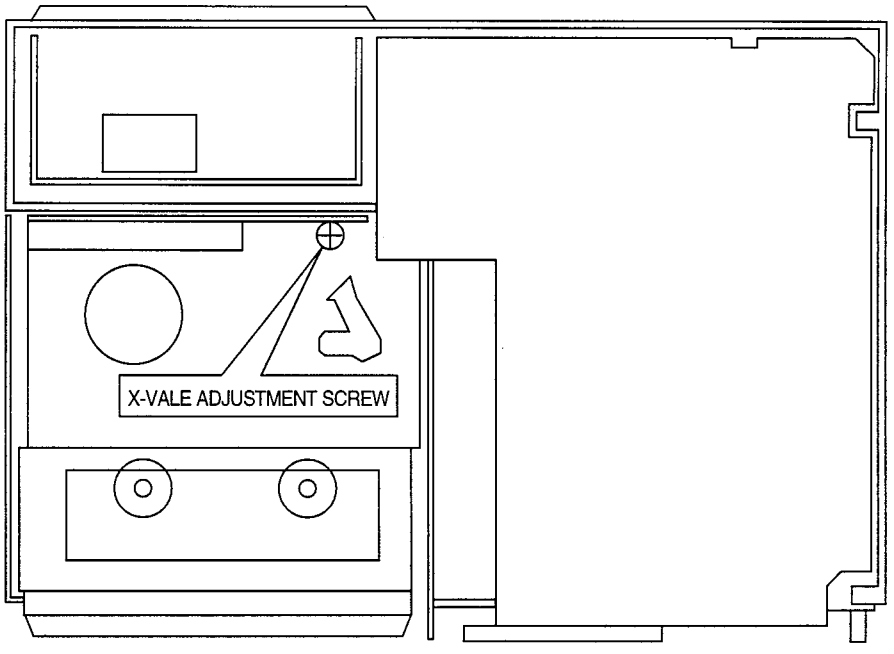


Fig. 4-5 Top View of Unit

8.Adjustment Procedure

8-1. Servo Circuit Adjustments

(1) Head switching point adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

To set the video head switching point during play to approximately the centre where the CH-1 and CH-2 envelopes overlap each other.

Fault:

The vertical sync signal is degraded and vertical jitter occur.

Switching noise appears across the bottom of the screen.

Test Equipment / Jigs and Connection Points

Oscilloscope: CH-1: Video Out
CH-2: TP1601 [MA board]

State of VCR

1) Play alignment tape (03 mode)
2) During playback, short TP1603 and TP1605 (GND), and then release the short-circuit.
3) Tracking volume: Centre

Adjustment Point

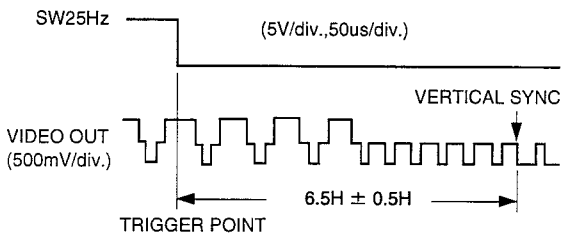
SLOW TRACKING VOLUME (RT1302) [FSW board]

Adjustment Procedure

1) Vertical sync signal: Set to 6.5 ±0.5H from the trailing edge (trigger position) of the SW25Hz pulse.
2) After adjustment, press the STOP button.

<Conditions of oscilloscope>
Trigger with CH-2.
Set the sync slope to "-".

Waveforms



(2) X-Value adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

To obtain compatibility with other VCRs.

Fault:

Noise occurs when tape recorded by onother VCR played back.

Test Equipment / Jigs and Connection Points

Oscilloscope: CH-1: TP3001 [MA board]
CH-2: TP1601 [MA board]

Alignment tape

State of VCR

1) Play alignment tape (03 mode)
2) Tracking volume: Centre

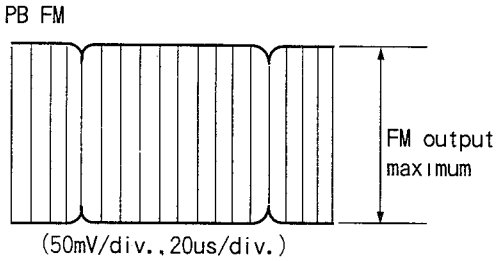
Adjustment Point

X-value adjustment screw

Adjustment Procedure

1) Turn the X-value adjustment screw to maximize the FM output.

Waveforms



8-2. Video Circuit Adjustment

(1) AGC video output level adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

To set the video output level in the E-E mode to a specified value.

Fault:

The correct tint and brightness cannot be obtained.

Test Equipment / Jigs and Connection Points

Colour bar generator: VIDEO IN

Oscilloscope: TP3016

State of VCR

1) Receive colour bar signal.
2) E-E mode

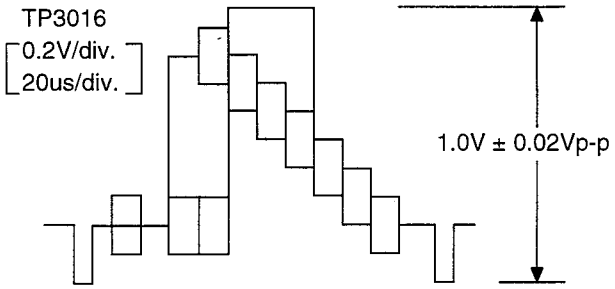
Adjustment Point

RT3301 [MA board]

Adjustment Procedure

1) Adjust RT3301 so the AGC video output level is 1.0 ± 0.02Vp-p.

Waveforms



(2) E-E video output level adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

To set the video output level in the E-E mode to a specified value.

Fault:

The correct tint and brightness cannot be obtained.

Test Equipment / Jigs and Connection Points

Colour bar generator: VIDEO IN

Oscilloscope: VIDEO OUT
(75 ohms terminated)

State of VCR

1) Receive colour bar signal.
2) E-E mode

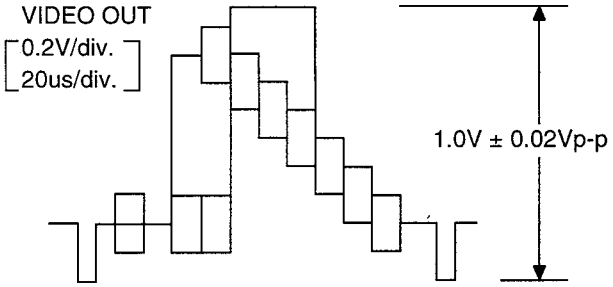
Adjustment Point

RT3204 [MA board]

Adjustment Procedure

1) Adjust RT3204 so the E-E video output level is 1.0 ± 0.02Vp-p.

Waveforms



(3) FM Carrier and Deviation adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

Sets the FM carrier frequency and deviation to the specified values.

Fault:

The picture is distorted when tapes recorded by other VCRs are played by this VCR and compatibility is not obtained.

Test Equipment / Jigs and Connection Points

Colour bar generator: VIDEO IN

Oscilloscope: TP3019

Blank tape

State of VCR

1) Receive a white (100%) signal (line input)

2) REC mode

Adjustment Point

RT3203 (Carrier) [MA board]

RT3205 (Deviation) [MA board]

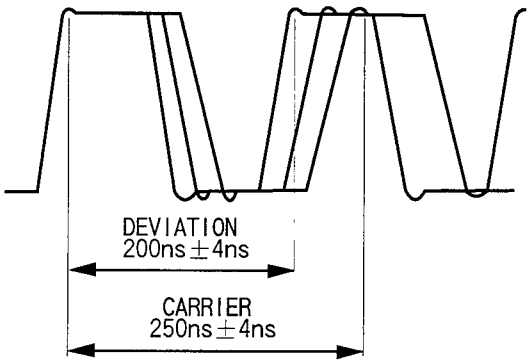
Adjustment Procedure

1) Connect an oscilloscope to TP3019.

2) Set the scope to (+) and adjust the RT3203 so the period of the widest pulse is 250ns±4ns.

3) Set the scope to (+) and adjust the RT3205 so the period of the narrowest pulse is 200ns±4ns.

Waveforms



(4) Rec chroma level adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

Set the record chroma levels to the optimum value.

Fault:

Diamond beats occur in the played back picture or colouring becomes poor.

The played back picture becomes dark and noise increases, or the picture glares and becomes whitish.

Test Equipment / Jigs and Connection Points

Colour bar generator: VIDEO IN

Oscilloscope: TP3020

Blank tape

State of VCR

1) 03-mode record colour bar signal.

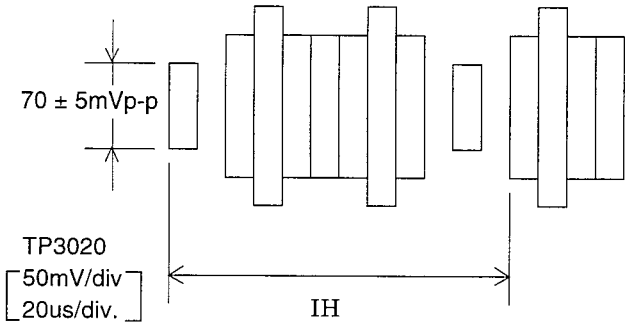
Adjustment Point

RT3207 [MA board]

Adjustment Procedure

1) Adjust RT3207 so the buast level is 70 ± 5mVp-p.

Waveforms



(5) Playback video out level adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

Set the video output level in the VHS mode to a specified value.

Fault:

The correct tint and brightness cannot be obtained.

Test Equipment / Jigs and Connection Points

Colour bar generator: VIDEO IN

Oscilloscope: VIDEO OUT (75 ohms terminated)

Blank tape

State of VCR

1) 03-mode record colour bar signal and play it back with this unit.

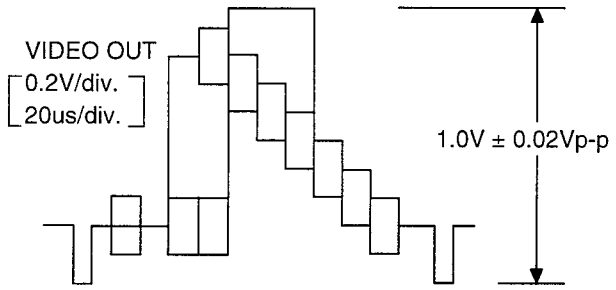
Adjustment Point

RT3206 [MA board]

Adjustment Procedure

1) Adjust RT3206 so the VHS playback level is 1.0 ± 0.02Vp-p.

Waveforms



(6) PAL Jog adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

To set the video output signal to the specified phase position.

Fault:

Colour becomes defective.

Test Equipment / Jigs and Connection Points

Vectorscope: VIDEO OUT

TP3015 [MA board]

TP3017 [MA board]

TP3018 [MA board]

State of VCR

1) Play alignment tape. (03mode / 1kHz section)

Adjustment Point

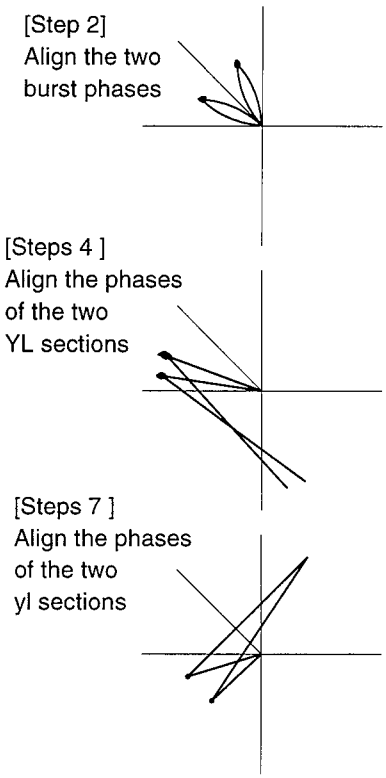
RT3201 [MA board]

RT3202 [MA board]

Adjustment Procedure

1) Connect a vectorscope to video out. (Set the vectorscope to the + V mode.)
2) Align the two burstphases
3) Short-circuit TP3015 and TP3018 (5V).
4) Adjust RT3201 to align the phases of the two vectors in the YL section.
5) Release the short-circuit.
6) Short-circuit TP3015 and TP3017 (GND).
7) Adjust RT3202 to align the phases of the two vectors in the yl section.
8) Release the short-circuit.
9) Repeat steps 3), 4) and 6),7).

Waveforms



8-3. Audio Circuit Adjustment

(1) Audio bias level adjustment

Purpose of adjustment and fault occurring if incomplete

Purpose:

To set the recording bias level to the optimum value.

Fault:

High-frequency response deteriorates.
Sound tends to be distorted.

Test Equipment / Jigs and Connection Points

VTVM: TP1401 [MA board]
TP1402 [MA board]

Blank tape

State of VCR

1) No-signal record mode. (03 mode)

Adjustment Point

RT1401 [MA board]

Adjustment Procedure

1) Adjust RT1401 so the VTVM reads 2.7 ± 0.1mV.

(2) Audio playback level check

Purpose of fault occurring if incomplete

Purpose:

To set the audio playback level to the specified value.

Fault:

The correct volume cannot be obtained.

Test Equipment / Jigs and Connection Points

VTVM: AUDIO OUT

Alignment tape

State of VCR

1) Play alignment tape. (03 mode / 1kHz section)

Check Procedure

1) The VTVM reads -5.0 ± 3.0dBs.

9.Trouble Mode Function

This VCR has a function which displays mechanism malfunctions, etc. When the system control μP (IC1901) detects information on a defect in the mechanism control system. The trouble memory data written to the EEP ROM can also be displayed on the OSD screen.

9-1. Trouble Mode Display

Table. 4-2 Details of Error

	Name of error	Major cause
1	Cylinder Lock	DFG is not normal.
2	Mecha.Lock 1	CFG is not detected for more than 400ms during unloading.
3	Mecha.Lock 2 ~ 10	The object position cannot be detected within the specified time during operation.
4	Reel.Lock 1	The specified CFG is not input when reel lock has occurred.
5	Reel.Lock 2	The specified CFG is input when reel lock has occurred

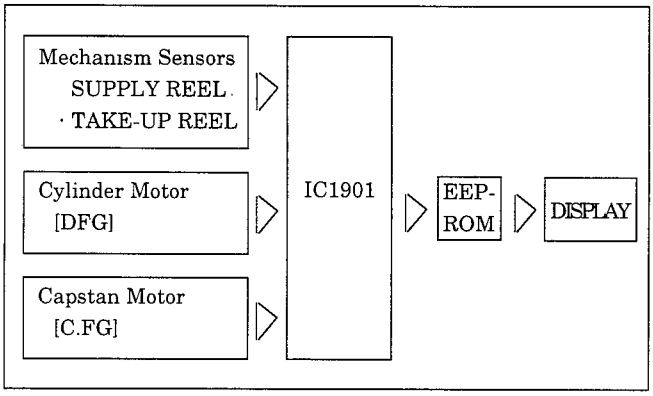


Fig. 4-8 Malfunction Detection

9-2. Trouble Memory Data Display

(1)Display method

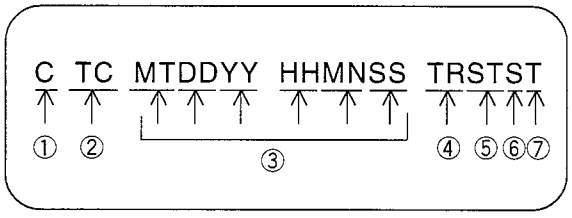


Fig. 4-9 OSD Screen

- Procedure to display the trouble memory
  Press **STOP** , **DOWN** and **H.POS** simultaneously.
- Procedure to erase the trouble memory
  Refer to "5.PROCEDURE TO RESET THE VCR" in this chapter.

(2)Datails of display (See Fig.4-9)

1. C : Number of times

Table. 4-3

Display	Details
1	First malfunction
0	Second malfunction

CAUTION: When malfunctions occurr 9 times or more, the first and the last 8th malfunctions are displayed.

2. T C : Total number of times

3.Data when malfunction occurred

→ M T . Month
→ D D : Day
→ Y Y : Year
→ H H : Hour
→ M N : Minute
→ S S : Second

4. T R : Trouble data

Table. 4-4

Display	Details	Mecha.Position
C Y	CYLINDER LOCK	
M 0	MECHA.LOCK 1	
M 1	MECHA.LOCK 2	FL
M 2	MECHA.LOCK 3	Unload
M 3	MECHA.LOCK 4	Stop
M 4	MECHA.LOCK 5	FF/REW
M 5	MECHA.LOCK 6	Rec/Play
M 6	MECHA.LOCK 7	Slow
M 7	MECHA.LOCK 8	Reverse slow
M 8	MECHA.LOCK 9	Reverse
M 9	MECHA.LOCK 10	Transient
R 1	REEL LOCK 1	
R 2	REEL LOCK 2	

5. S T : Status

Table. 4-5

Display	Details
S T	Normal stop
F 1	FF(when calculating tape remaining)
F 2	FF(when executing soft landing)
F 3	FF(high-speed state)
R 1	REW(when calculating tape remaining)
R 2	REW(when executing soft landing)
R 3	REW(high-speed state)
R S	Rec Pause
R D	Rec
P S	Still
P L	Play
R P	Reverse play
F A	Field Advance
F R	Field reverse
C U	CUE
R V	Review

6. S : Tape speed

Table. 4-6

Display	Details
0	03
1	12
2	A24
3	24

7. T : Tape position

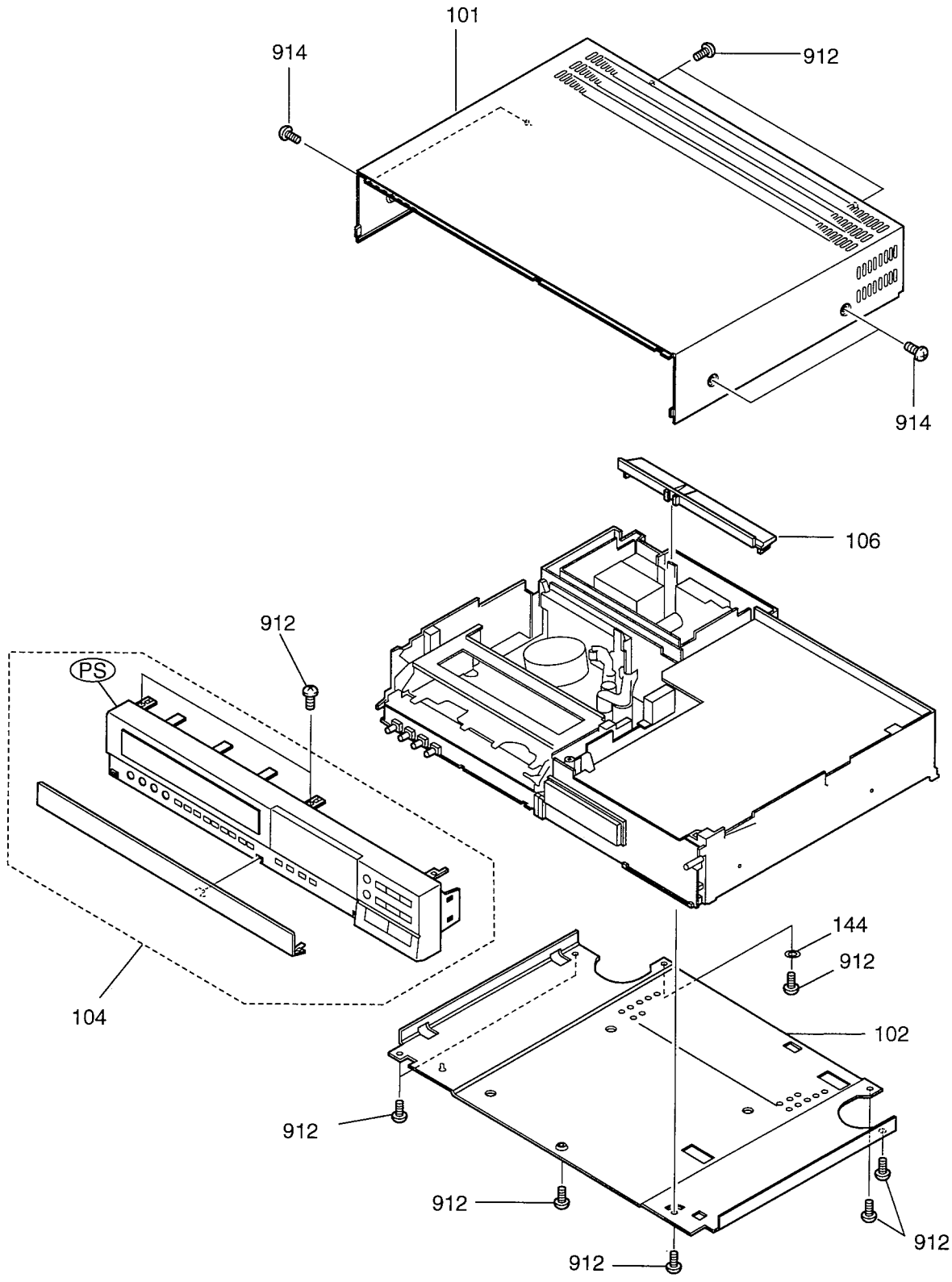
Table. 4-7

Display	Details
-	Remaining tape calculation incomplete
0	Near the end of tape
1	.
2	.
3	
4	
5	
6	.
7	Near the start of tape

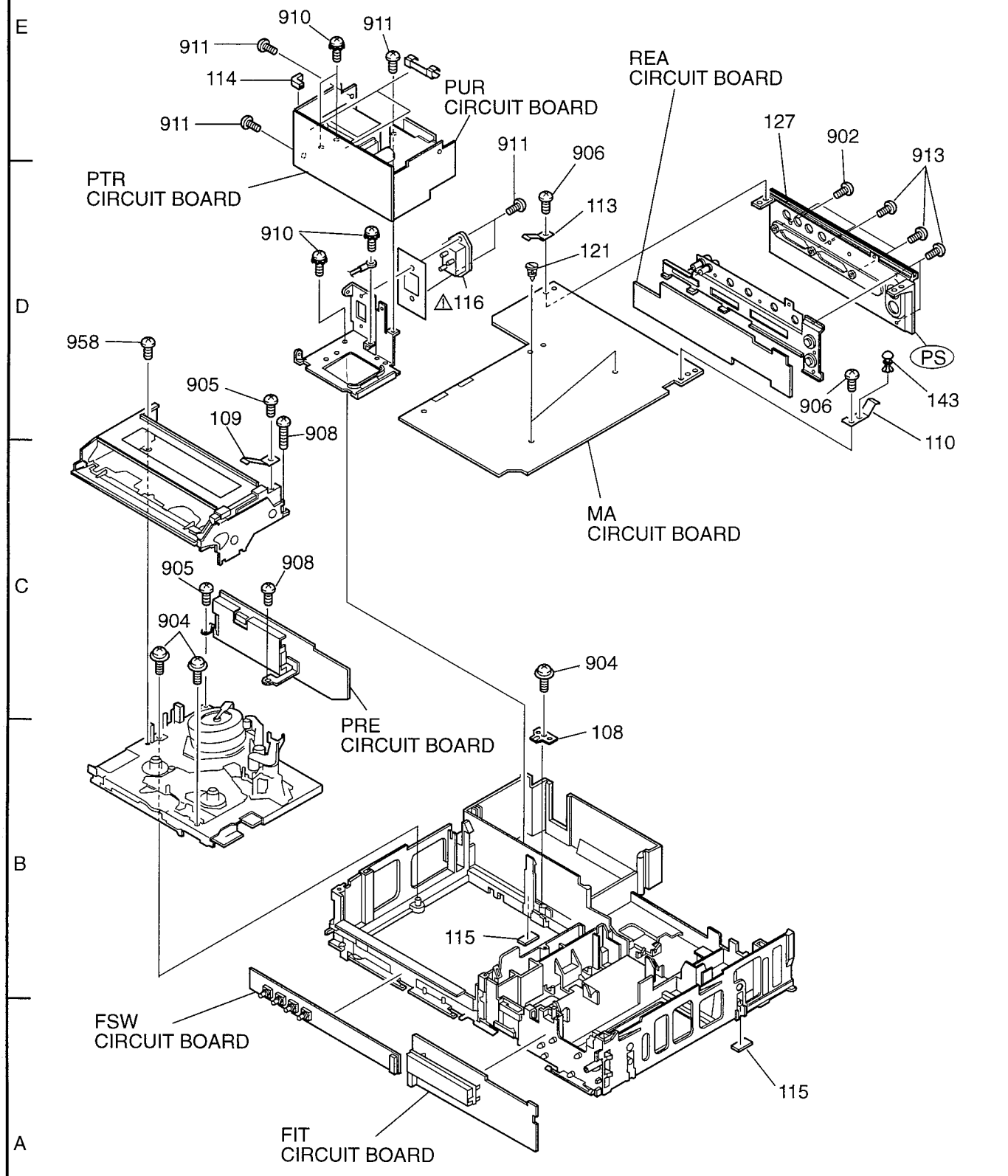
CHAPTER 5 EXPLODED VIEWS

1. CABINET (CASES) SECTION

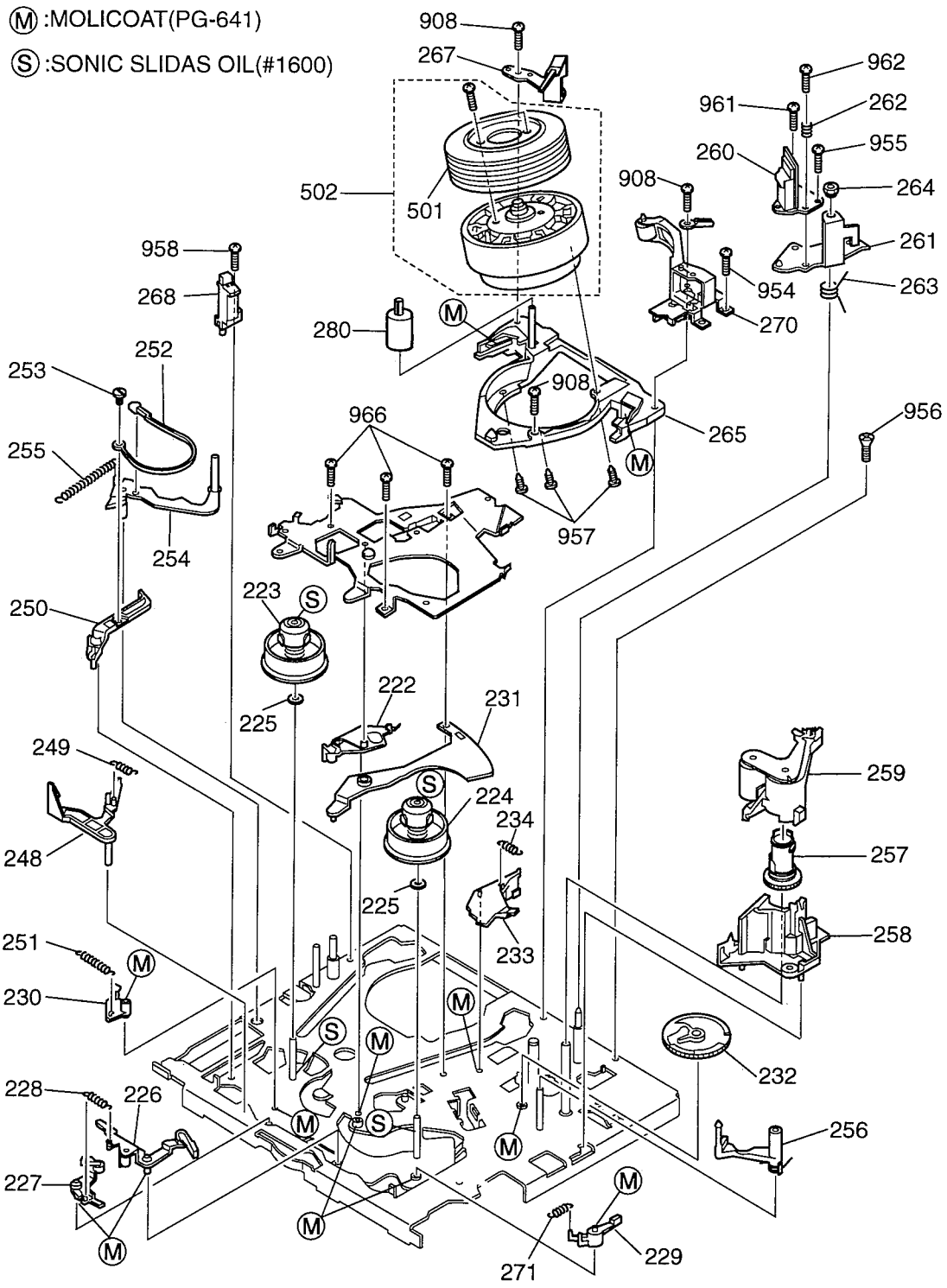
NOTE: The synthetic resin members that can be dismantled are shown by abbreviations using letters.



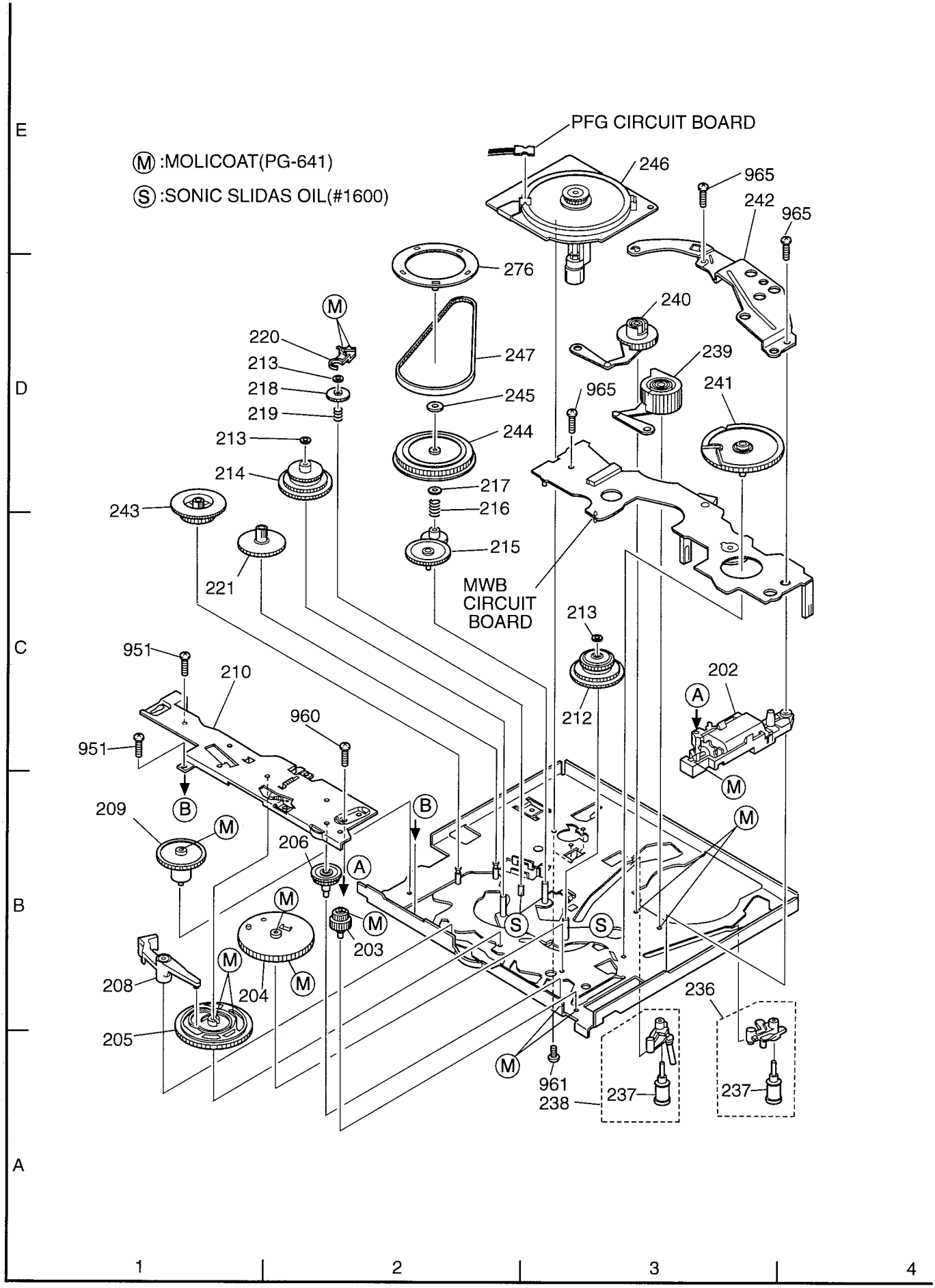
2. CABINET (CIRCUIT BOARDS) SECTION



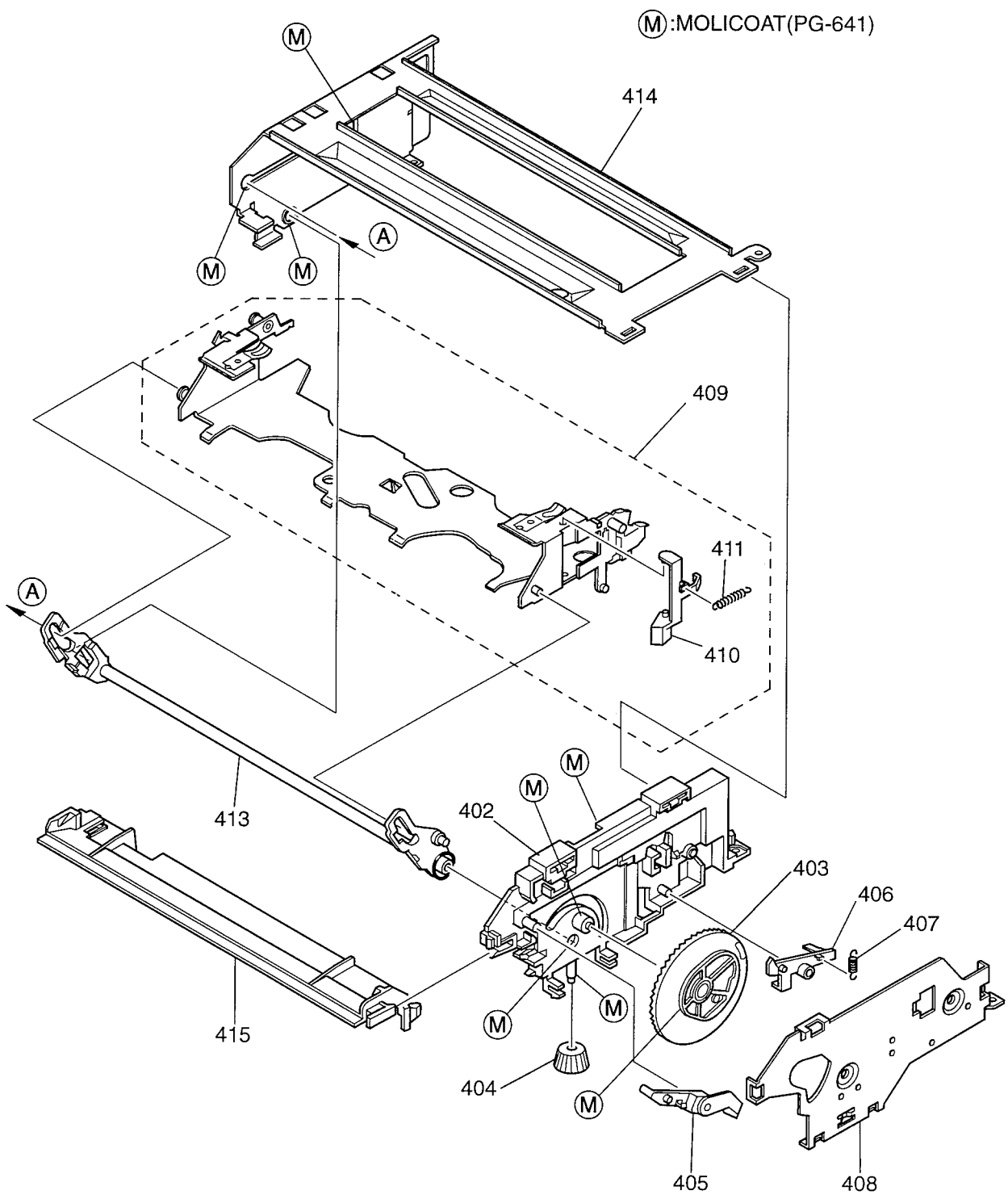
3. CHASSIS (TOP VIEW) SECTION



4. CHASSIS (BOTTOM VIEW) SECTION



5. CASSETTE LOADING MECHANISM SECTION



CHAPTER 6 REPLACEMENT PARTS LIST

1. MECHANICAL PARTS LIST

SYMBOL NO	P-NO	DESCRIPTION
		MECHANISM SECTION
101	QA10957	COVER, TOP
102	6008672	COVER, BOTTOM
104	PH15406	PANEL, FRONT
106	6811834	PIECE, REAR
108	7415793	BRACKET
109	4826831	SPRING
110	6529161	PLATE
113	4842811	PLATE
114	6812411	HOLDER
115	4330291	FELT
⚠116	5699151	AC INLET
121	6898241	STUD
127	PH17124	PANEL, FRONT
143	6714211	NYLON RIVET - 3MMD
144	8815114	WASHER
202	6500761	MOTOR, LOADING
203	6441371	GEAR
204	6441392	GEAR
205	6406341	GEAR
206	6441381	GEAR
208	6823171	ARM, OPERATION
209	6441421	GEAR
210	6500322	PLATE
212	KF10271	GEAR, TAKE-UP
213	7788347	WASHER
214	6406291	GEAR(R)
215	6401446	ARM, FR
216	6522979	SPRING
217	6500841	WASHER
218	6441434	GEAR, CHANGE
219	6522978	SPRING
220	6823183	ARM
221	6441411	GEAR
222	6823314	ARM
223	6416632	REEL, TABLE(S)
224	6404141	REEL, TABLE(T)
225	4583333	WASHER
226	4589851	ARM, BRAKE(R)
227	6823229	ARM, BRAKE(L)
228	6318613	SPRING
229	6823272	BRAKE
230	6823261	BRAKE
231	4588971	ARM
232	6823251	GEAR
233	KX21061	BRAKE
234	6558455	SPRING
236	6638943	BASE, GUIDE ROLLER(I)
237	KX12921	ROLLER, GUIDE
238	6638957	BASE, GUIDE ROLLER(O)
239	4587681	GEAR, LOADING(L)
240	4587671	GEAR, LOADING(R)
241	6823538	GEAR, MODE
242	KX10181	BRACKET
243	6823542	GEAR
244	6406332	PULLY, TAKE UP
245	6500841	WASHER
246	GP10205	MOTOR, CAPSTAN
247	6358101	BELT
248	6823424	ARM
249	6553361	SPRING
250	6823437	ARM, OPERATION
251	6553301	SPRING
252	6823475	BAND, TENSION
253	6823511	SHAFT
254	4587662	ARM
255	6553352	SPRING
256	6638936	ARM
257	6823521	GEAR, CAM
258	6823445	BRACKET
259	6500434	ROLLER, PRESSURE
260	5434153	HEAD
261	6500593	BASE, AC H6AD
262	6554301	SPRING
263	6553151	SPRING
264	7785673	NUT
265	6638895	BASE, CYLINDER
267	FU10191	BRUSH, CYLINDER
268	5423081	HEAD, FULL ERASE
270	NA10564	HEAD CLEANING ASSY
271	6558502	SPRING
275	6816211	WORM
276	6358591	CAP
280	6823452	ROLLER
402	6823613	BRACKET
403	6823621	GEAR
404	6823631	GEAR
405	6823642	ARM
406	6823652	ARM
407	6558531	SPRING
408	6500612	BRACKET
409	6500623	HOLDER
410	6823691	ARM
411	6558541	SPRING
413	6823665	ARM
414	6500672	BRACKET
415	6823701	HOLDER
501	5436758	CYKINDER, UPPER(CY-C40)
502	5436782	CYLINDER, LOWER(CY-G PK)
902	8699408	SCREW
904	7781138	SCREW(3X10BT)
905	8671305	SCREW(2.6X5)
906	8699412	SCREW (3X12) BLACK
908	0711312	PAN HEAD SCREW-2.6MMX12MM
910	7785351	SCREW(4XL4)
911	8691408	SXCREW(3X8)
912	8699410	SCREW(3X10)
913	8678410	DT BIND SCREW-3MMDX1MM
914	8698410	BT BIND SCREW-3MMDX1MM
951	0711304	SCREW(2.6X4)
952	0711312	PAN HEAD SCREW-2.6MMX12MM
954	0711306	PAN HEAD SCREW-2.6MMX6MM
955	7773741	SCREW
956	4528181	SCREW
957	8650408	SCREW
958	0671308	DT SCREW-2.6MMDX8MM
960	8650914	SCREW(2.6X14S)
961	8741306	SCREW(2.6X6)
962	8741312	SPRING
965	MJ10251	SCREW(M2.6)
966	MK11531	SCREW

2. ELECTRICAL PARTS LIST

SYMBOL NO	P-NO	DESCRIPTION
		CAPACITORS
C0001	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0002	0209847	CERAMIC CHIP 82PF+-10% 50V
C0003	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C0004	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C0005	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0006	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0007	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C0008	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C0009	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0010	0209847	CERAMIC CHIP 82PF+-10% 50V
C0011	0893008	CERAMIC CHIP 0.1UF+-10% 16V
C0012	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0013	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C0014	0800186	ELECTROLYTIC 47UF 16V
C0015	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0016	0209891	CERAMIC CHIP 12PF+-5% 50V
C0017	0800186	ELECTROLYTIC 47UF 16V
C0018	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0019	0209849	CERAMIC CHIP 390PF+-5% 50V
C0020	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0021	0800186	ELECTROLYTIC 47UF 16V
C0022	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C0023	0800186	ELECTROLYTIC 47UF 16V
C1202	0890026	CERAMIC DISC 220PF+-10% 50V
C1206	0800039	ELECTROLYTIC 47UF 10V
C1207	0880009	POLYESTER FILM 0.01UF+-10% 50V
C1208	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C1404	0880039	POLYESTER FILM 0.0047UF+-10% 50V
C1405	0800291	ELECTROLYTIC 10UF 16V
C1406	0800299	ELECTROLYTIC 22UF 16V
C1408	0880057	POLYESTER FILM 0.1UF+-10% 50V
C1409	0880059	POLYESTER FILM 0.15UF+-10% 50V
C1410	0800291	ELECTROLYTIC 10UF 16V
C1411	0209942	CERAMIC CHIP 100PF+-5% 50V
C1412	0800279	CAPACITOR 1.0UF+-20% 50V
C1413	0800279	CAPACITOR 1.0UF+-20% 50V
C1414	0800279	CAPACITOR 1.0UF+-20% 50V
C1415	0880046	POLYESTER FILM 0.015UF+-10% 50V
C1416	0800291	ELECTROLYTIC 10UF 16V
C1417	0800291	ELECTROLYTIC 10UF 16V
C1418	0880033	MYLAR 1500PF+-10% 50V
C1419	0800291	ELECTROLYTIC 10UF 16V
C1420	0800308	ELECTROLYTIC 33UF 16V
C1421	0893037	CERAMIC CHIP 3300PF+-10% 50V
C1422	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1423	0209946	CERAMIC CHIP 220PF+-5% 50V
C1424	0268449	MYLAR 0.047UF+-5% 100V
C1425	0800291	ELECTROLYTIC 10UF 16V
C1426	0202159	CERAMIC CHIP 680PF+-5% 50V
C1430	0880053	POLYESTER FILM 0.047UF+-10% 50V
C1431	0880198	CAPACITOR 0.22UF 50V
C1432	0880053	POLYESTER FILM 0.047UF+-10% 50V
C1433	0880044	POLYESTER FILM 0.01UF+-10% 50V
C1434	0800279	CAPACITOR 1.0UF+-20% 50V
C1437	0880055	MYLAR 0.068UF+-10% 50V
C1439	0800286	CAPASITOR 4.7UF+-20% 25V
C1440	0800291	ELECTROLYTIC 10UF 16V
C1441	0800326	ELECTROLYTIC 100UF 16V
C1442	0893063	CERAMIC CHIP 0.022UF+80-20% 25V
C1443	0800291	ELECTROLYTIC 10UF 16V
C1501	0893082	CERAMIC CHIP 0.022UF+80-20% 50V
C1502	0207456	ELECTROLYTIC 1UF 50V

SYMBOL NO	P-NO	DESCRIPTION
C1504	0209942	CERAMIC CHIP 100PF+-5% 50V
C1505	0800122	ELECTROLYTIC 10UF 16V
C1506	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C1507	0800118	ELECTROLYTIC 4.7UF 35V
C1508	0893008	CERAMIC CHIP 0.1UF+-10% 16V
C1509	0209942	CERAMIC CHIP 100PF+-5% 50V
C1510	0209936	CERAMIC CHIP 33PF+-5% 50V
C1511	0209937	CERAMIC CHIP 39PF+-5% 50V
C1512	0209943	CERAMIC DISC 120PF+-5% 50V
C1513	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1515	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1516	0890043	CERAMIC DISC 0.01UF+-20% 16V
C1518	0209946	CERAMIC CHIP 220PF+-5% 50V
C1601	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1602	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1603	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1604	0800309	ELECTROLYTIC 33UF+-20% 25V
C1605	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1606	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1607	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C1608	0893013	CERAMIC CHIP 0.22UF+-10% 16V
C1609	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1610	0800128	ELECTROLYTIC 22UF 16V
C1611	0209934	CERAMIC CHIP 22PF+-5% 50V
C1612	0800297	ELECTROLYTIC 22UF 6.3V
C1613	0800141	ELECTROLYTIC 47UF 16V
C1614	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C1615	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1616	0209942	CERAMIC CHIP 100PF+-5% 50V
C1617	0209938	CERAMIC CHIP 47PF+-5% 50V
C1619	0209950	CERAMIC CHIP 470PF+-5% 50V
C1622	0893082	CERAMIC CHIP 0.022UF+80-20% 50V
C1625	0209942	CERAMIC CHIP 100PF+-5% 50V
C1626	0800291	ELECTROLYTIC 10UF 16V
C1627	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C1628	0209942	CERAMIC CHIP 100PF+-5% 50V
C1629	0209906	CERAMIC DISC 820PF+-5% 50V
C1630	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1631	0209943	CERAMIC DISC 120PF+-5% 50V
C1632	0209948	CERAMIC CHIP 330PF+-5% 50V
C1635	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1638	0893027	CERAMIC CHIP 0.1UF+-10% 25V
C1639	0800291	ELECTROLYTIC 10UF 16V
C1642	0890046	CERAMIC DISC 0.1UF+80-20% 50V
C1721	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C1724	0800317	ELECTROLYTIC 47UF 16V
C1725	0800317	ELECTROLYTIC 47UF 16V
C1727	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C1729	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C1730	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C1731	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C1732	0893004	CERAMIC CHIP 0.047UF+-10% 16V
C1852	0800204	CERAMIC CHIP 100PF+-20% 25V
C1853	0800202	ELECTROLYTIC 10UF 25V
C1855	0890102	CERAMIC DISC 0.022UF+80-20% 50V
C1856	AL10217F	ELECTROLYTIC 1000UF 16V
C1857	0800203	ELECTROLYTIC 100UF 50V
C1858	0800204	CERAMIC CHIP 100PF+-20% 25V
C1859	0800204	CERAMIC CHIP 100PF+-20% 25V
C1867	0255786	ELECTROLYTIC 4700UF 35V
⚠C1891	AJ10294	CERAMIC CAPACITOR 4700PF+-20% 125V
C1902	0800291	ELECTROLYTIC 10UF 16V
C1903	0880185	CAPACITOR 0.022UF+-5% 50V
C1904	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C1905	0209933	CERAMIC CHIP 18PF+-5% 50V

SYMBOL NO	P-NO	DESCRIPTION
C1906	0209934	CERAMIC CHIP 22PF+-5% 50V
C1907	0209927	CERAMIC CHIP 7.0PF+-0.5% 50V
C1908	0209927	CERAMIC CHIP 7.0PF+-0.5% 50V
C1909	0893044	CERAMIC CHIP 0.01UF+-10% 50V
C1910	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C1911	0800316	ELECTROLYTIC 47UF 10V
C1912	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C1913	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C1914	0800374	ELECTROLYTIC 4700UF 10V
C1915	0893084	CERAMIC CHIP 0.047UF+80-20% 50V
C1916	0893031	CERAMIC CHIP 1000PF+-10% 50V
C1917	0893031	CERAMIC CHIP 1000PF+-10% 50V
C2101	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C2851	0880014	POLYESTER FILM 0.047UF+-10% 50V
C2852	0207714	ELECTROLYTIC 100UF 63V
C2853	0207713	ELECTROLYTIC 22UF 63V
C2854	0800195	CERAMIC CHIP 1.0PF+-20% 50V
C2855	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C2856	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C2857	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C2858	0800201	ELECTROLYTIC 33UF 16V
C2859	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C2860	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C2861	0800202	ELECTROLYTIC 10UF 25V
C2865	0890022	CERAMIC DISC 100PF+-10% 50V
C2870	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C2872	0890045	CERAMIC DISC 0.047UF+80-20% 50V
C3001	0209946	CERAMIC CHIP 220PF+-5% 50V
C3002	0209946	CERAMIC CHIP 220PF+-5% 50V
C3003	0893008	CERAMIC CHIP 0.1UF+-10% 16V
C3004	0209946	CERAMIC CHIP 220PF+-5% 50V
C3006	0209946	CERAMIC CHIP 220PF+-5% 50V
C3011	0209946	CERAMIC CHIP 220PF+-5% 50V
C3012	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3013	0800326	ELECTROLYTIC 100UF 16V
C3016	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3018	0209946	CERAMIC CHIP 220PF+-5% 50V
C3019	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3020	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3021	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3022	0209934	CERAMIC CHIP 22PF+-5% 50V
C3023	0209931	CERAMIC CHIP 12PF+-5% 50V
C3024	0209943	CERAMIC DISC 120PF+-5% 50V
C3025	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3026	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3027	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3028	0800316	ELECTROLYTIC 47UF 10V
C3029	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3030	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3031	0893029	ELECTROLYTIC 0.15UF+-10% 25V
C3032	0209944	CERAMIC CHIP 150PF+-5% 50V
C3033	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3201	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3202	0800316	ELECTROLYTIC 47UF 10V
C3203	0800286	CAPASITOR 4.7UF+-20% 25V
C3204	0800291	ELECTROLYTIC 10UF 16V
C3205	0890043	CERAMIC DISC 0.01UF+-20% 16V
C3206	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3207	0800291	ELECTROLYTIC 10UF 16V
C3208	0800291	ELECTROLYTIC 10UF 16V
C3209	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3210	0800317	ELECTROLYTIC 47UF 16V
C3211	0893004	CERAMIC CHIP 0.047UF+-10% 16V
C3212	0800291	ELECTROLYTIC 10UF 16V
C3213	0893014	CERAMIC CHIP 0.01UF+-10% 25V

SYMBOL NO	P-NO	DESCRIPTION
C3214	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3215	0800317	ELECTROLYTIC 47UF 16V
C3216	0893004	CERAMIC CHIP 0.047UF+-10% 16V
C3217	0800279	CAPACITOR 1.0UF+-20% 50V
C3218	0800279	CAPACITOR 1.0UF+-20% 50V
C3219	0893006	CERAMIC CHIP 0.068UF+-10% 16V
C3221	0209945	CERAMIC DISC 180PF+-5% 50V
C3223	0209939	CERAMIC CHIP 56PF+-5% 50V
C3224	0800291	ELECTROLYTIC 10UF 16V
C3225	0209949	CERAMIC DISC 390PF+-5% 50V
C3226	0209938	CERAMIC CHIP 47PF+-5% 50V
C3227	0209936	CERAMIC CHIP 33PF+-5% 50V
C3228	0209941	CERAMIC DISC 82PF+-5% 50V
C3229	0800291	ELECTROLYTIC 10UF 16V
C3230	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3231	0893004	CERAMIC CHIP 0.047UF+-10% 16V
C3232	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3233	0800279	CAPACITOR 1.0UF+-20% 50V
C3234	0800279	CAPACITOR 1.0UF+-20% 50V
C3235	0893004	CERAMIC CHIP 0.047UF+-10% 16V
C3236	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3237	0209940	CERAMIC CHIP 68PF+-5% 50V
C3238	0800317	ELECTROLYTIC 47UF 16V
C3239	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3240	0800317	ELECTROLYTIC 47UF 16V
C3241	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3242	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3243	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C3244	0800317	ELECTROLYTIC 47UF 16V
C3245	0800317	ELECTROLYTIC 47UF 16V
C3246	0209940	CERAMIC CHIP 68PF+-5% 50V
C3247	0800291	ELECTROLYTIC 10UF 16V
C3248	0209934	CERAMIC CHIP 22PF+-5% 50V
C3249	0893048	CERAMIC CHIP 0.022UF+-10% 50V
C3250	0890044	CERAMIC DISC 0.022UF+80-20% 25V
C3251	0209928	CERAMIC DISC 8PF+-5% 50V
C3252	0209937	CERAMIC CHIP 39PF+-5% 50V
C3254	0209940	CERAMIC CHIP 68PF+-5% 50V
C3255	0209935	CERAMIC CHIP 27PF+-5% 50V
C3256	0209937	CERAMIC CHIP 39PF+-5% 50V
C3257	0800271	ELECTROLYTIC 0.1UF 50V
C3260	0893029	ELECTROLYTIC 0.15UF+-10% 25V
C3261	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3264	0209928	CERAMIC DISC 8PF+-5% 50V
C3265	0209938	CERAMIC CHIP 47PF+-5% 50V
C3266	0890043	CERAMIC DISC 0.01UF+-20% 16V
C3301	0800273	ELECTROLYTIC 0.22UF 50V
C3302	0209948	CERAMIC CHIP 330PF+-5% 50V
C3303	0893015	CERAMIC CHIP 0.012UF+-10% 25V
C3304	0800277	ELECTROLYTIC 0.47UF 50V
C3305	0800291	ELECTROLYTIC 10UF 16V
C3306	0209935	CERAMIC CHIP 27PF+-5% 50V
C3307	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3308	0800315	ELECTROLYTIC 47UF 6.3V
C3309	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3310	0800282	ELECTROLYTIC 2.2UF 50V
C3311	0800277	ELECTROLYTIC 0.47UF 50V
C3312	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3313	0800326	ELECTROLYTIC 100UF 16V
C3320	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3321	0893091	CERAMIC CHIP 0.022UF+-10% 16V
C3322	0800317	ELECTROLYTIC 47UF 16V
C3323	0800352	ELECTROLYTIC 470UF 10V
C3334	0800316	ELECTROLYTIC 47UF 10V
C3335	0893027	CERAMIC CHIP 0.1UF+-10% 25V

SYMBOL NO	P-NO	DESCRIPTION
C3336	0209928	CERAMIC DISC 8PF+-5% 50V
C3337	0890088	CERAMIC DISC 1200PF+-10% 50V
C3338	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3339	0209941	CERAMIC DISC 82PF+-5% 50V
C3340	0893032	CERAMIC CHIP 1200PF+-10% 50V
C3341	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3342	0209936	CERAMIC CHIP 33PF+-5% 50V
C3343	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3344	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3345	0890043	CERAMIC DISC 0.01UF+-20% 16V
C3346	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3347	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3348	0893014	CERAMIC CHIP 0.01UF+-10% 25V
C3349	0209937	CERAMIC CHIP 39PF+-5% 50V
C3350	0209937	CERAMIC CHIP 39PF+-5% 50V
		RESISTORS
R0001	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0002	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0003	0103824	CHIP RESISTOR 27 OHM+-5% 0.1W
R0004	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0005	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0006	0103824	CHIP RESISTOR 27 OHM+-5% 0.1W
R0007	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0008	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R0009	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0010	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R0011	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R0012	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R0013	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R0014	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0015	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R0016	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R0017	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R0018	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R0019	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R0022	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0023	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R0024	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R1131	0101718	RESISTOR 75 OHM+-5% 1/6W
R1139	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1201	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1202	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1203	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1204	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1206	0700064	CARBON FILM 56KOHM+-5% 1/8W
R1207	0700063	CARBON FILM 47KOHM+-5% 1/8W
R1208	0700063	CARBON FILM 47KOHM+-5% 1/8W
R1209	0700063	CARBON FILM 47KOHM+-5% 1/8W
R1210	0700063	CARBON FILM 47KOHM+-5% 1/8W
R1211	0101821	CARBON FILM 100 OHM+-5% 1/4W
R1212	0101821	CARBON FILM 100 OHM+-5% 1/4W
R1215	0700061	CARBON FILM 33KOHM+-5% 1/8W
R1221	0700043	CARBON FILM 1.5KOHM+-5% 1/8W
R1222	0700061	CARBON FILM 33KOHM+-5% 1/8W
R1223	0700044	CARBON FILM 1.8KOHM+-5% 1/8W
R1224	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1225	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R1226	0700036	CARBON FILM 470 OHM+-5% 1/8W
R1227	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R1228	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1229	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R1230	0700074	CARBON FILM 330KOHM+-5% 1/8W
R1231	0700056	CARBON FILM 15KOHM+-5% 1/8W

SYMBOL NO	P-NO	DESCRIPTION
R1232	0700068	CARBON FILM 120KOHM+-5% 1/8W
R1233	0700062	CARBON FILM 39KOHM+-5% 1/8W
R1234	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1235	0700043	CARBON FILM 1.5KOHM+-5% 1/8W
R1236	0700061	CARBON FILM 33KOHM+-5% 1/8W
R1237	0700044	CARBON FILM 1.8KOHM+-5% 1/8W
R1238	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1239	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R1240	0700036	CARBON FILM 470 OHM+-5% 1/8W
R1241	0700043	CARBON FILM 1.5KOHM+-5% 1/8W
R1242	0700061	CARBON FILM 33KOHM+-5% 1/8W
R1243	0700044	CARBON FILM 1.8KOHM+-5% 1/8W
R1244	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1245	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R1246	0700036	CARBON FILM 470 OHM+-5% 1/8W
R1247	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R1248	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1249	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R1250	0700074	CARBON FILM 330KOHM+-5% 1/8W
R1301	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R1302	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1303	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R1304	0700074	CARBON FILM 330KOHM+-5% 1/8W
R1305	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R1306	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R1307	0700043	CARBON FILM 1.5KOHM+-5% 1/8W
R1308	0700061	CARBON FILM 33KOHM+-5% 1/8W
R1309	0700044	CARBON FILM 1.8KOHM+-5% 1/8W
R1310	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1311	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R1312	0700036	CARBON FILM 470 OHM+-5% 1/8W
R1313	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R1314	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1315	0700052	CARBON FILM 6.8KOHM+-5% 1/8W
R1316	0700074	CARBON FILM 330KOHM+-5% 1/8W
R1317	0700057	CARBON FILM 18KOHM+-5% 1/8W
R1318	0700057	CARBON FILM 18KOHM+-5% 1/8W
R1402	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R1403	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R1405	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R1406	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1407	0103868	CHIP RESISTOR 120KOHM+-5% 0.1W
R1408	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1409	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1410	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1411	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R1413	0103819	CHIP RESISTOR 10 OHM+-5% 0.1W
R1414	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R1415	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R1416	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1417	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1418	0700063	CARBON FILM 47KOHM+-5% 1/8W
R1419	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R1420	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R1422	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R1423	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1424	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1425	0103835	CHIP RESISTOR 220 OHM+-5% 0.1W
R1426	0103864	CHIP RESISTOR 56KOHM+-5% 0.1W
R1427	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1428	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1429	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1430	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1431	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R1432	0101725	CHIP RESISTOR 2.2 OHM+-5% 1/4W

SYMBOL NO	P-NO	DESCRIPTION
R1433	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1434	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R1435	0700038	CARBON FILM 680 OHM+-5% 1/8W
R1436	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R1439	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1441	0700059	CARBON FILM 27KOHM+-5% 1/8W
R1443	0700061	CARBON FILM 33KOHM+-5% 1/8W
R1444	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1445	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R1446	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1447	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1449	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1450	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R1451	0103870	CHIP RESISTOR 180KOHM+-5% 0.1W
R1452	0103828	CHIP RESISTOR 56 OHM+-5% 0.1W
R1453	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1501	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1502	0700027	CARBON FILM 100 OHM+-5% 1/8W
R1505	0103875	CHIP RESISTOR 470KOHM+-5% 0.1W
R1507	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R1509	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1510	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R1511	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1513	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1514	0103828	CHIP RESISTOR 56 OHM+-5% 0.1W
R1515	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1516	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R1517	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R1601	0700058	CARBON FILM 22KOHM+-5% 1/8W
R1602	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1603	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1604	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1605	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R1606	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R1607	0103870	CHIP RESISTOR 180KOHM+-5% 0.1W
R1608	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1609	0103880	CHIP RESISTOR 1.5MOHM+-10% 0.1W
R1610	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1611	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1618	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1619	0700047	CARBON FILM 3.3KOHM+-5% 1/8W
R1632	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1633	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R1636	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R1637	0103864	CHIP RESISTOR 56KOHM+-5% 0.1W
R1638	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1639	0700065	CARBON FILM 68KOHM+-5% 1/8W
R1640	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1641	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1642	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1643	0103878	CHIP RESISTOR 820KOHM+-5% 0.1W
R1644	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1645	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1646	0700062	CARBON FILM 39KOHM+-5% 1/8W
R1647	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1648	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1649	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1650	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1651	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R1652	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1653	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1654	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R1655	0103862	CHIP RESISTOR 39KOHM+-5% 0.1W
R1656	0103834	CHIP RESISTOR 180 OHM+-5% 0.1W
R1657	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W

SYMBOL NO	P-NO	DESCRIPTION
R1658	0700062	CARBON FILM 39KOHM+-5% 1/8W
R1659	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1660	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1661	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1662	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1663	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1664	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1667	0700067	CARBON FILM 100KOHM+-5% 1/8W
R1669	0103877	CHIP RESISTOR 680KOHM+-5% 0.1W
R1671	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R1673	0103873	CHIP RESISTOR 330KOHM+-5% 0.1W
R1674	0103869	CHIP RESISTOR 150KOHM+-5% 0.1W
R1675	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1676	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1681	0103852	CHIP RESISTOR 5.6KOHM+-5% 0.1W
R1682	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1683	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1684	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1685	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1686	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1687	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1688	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1693	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1694	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1736	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1737	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R1738	0111276	METAL FILM 100 OHM+-5% 2W
R1739	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1740	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R1741	0111276	METAL FILM 100 OHM+-5% 2W
R1742	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1743	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1759	0103858	CHIP RESISTOR 18KOHM+-5% 0.1W
R1761	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1762	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1763	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1765	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1766	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R1768	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1769	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R1770	0700058	CARBON FILM 22KOHM+-5% 1/8W
R1773	0103867	CHIP RESISTOR 100KOHM+-5% 0.1W
R1774	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1775	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1777	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1778	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1782	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1783	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1784	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1786	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1788	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1790	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1851	0101844	CARBON FILM 8.2KOHM+-5% 1/4W
⚠R1871	0101712	FUSE RESISTOR 6.8 OHM+-5% 1/4W
R1884	0700036	CARBON FILM 470 OHM+-5% 1/8W
R1901	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1902	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1903	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1904	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1905	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1906	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1907	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1908	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1909	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1910	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W

SYMBOL NO	P-NO	DESCRIPTION
R1911	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1912	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1914	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1915	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1916	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1917	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1918	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1919	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1920	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1921	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1922	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1923	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R1924	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
⚠R1925	0101711	FUSE RESISTOR 2.2 OHM+-5% 1/4W
R1926	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R1927	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1928	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1929	0103854	CHIP RESISTOR 8.2KOHM+-5% 0.1W
R1930	0700058	CARBON FILM 22KOHM+-5% 1/8W
R1931	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1932	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R1933	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1934	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R1935	0103865	CHIP RESISTOR 68KOHM+-5% 0.1W
R1936	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1937	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R1939	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1940	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1941	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1942	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1944	0700054	CARBON FILM 10KOHM+-5% 1/8W
R1945	0700047	CARBON FILM 3.3KOHM+-5% 1/8W
R1946	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1947	0103871	CHIP RESISTOR 220KOHM+-5% 0.1W
R1949	0700061	CARBON FILM 33KOHM+-5% 1/8W
R1953	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1954	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1955	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1956	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1957	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1958	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1959	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1960	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1961	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1962	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1963	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1964	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1965	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1966	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1967	0103881	CHIP RESISTOR 2.2MOHM+-10% 0.1W
R1968	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R1969	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1970	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1971	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1972	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1973	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1975	0700062	CARBON FILM 39KOHM+-5% 1/8W
R1979	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1980	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1982	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1983	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1984	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1985	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1986	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1987	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W

SYMBOL NO	P-NO	DESCRIPTION
R1988	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1992	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1993	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R1994	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R1995	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R1996	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R1997	0103860	CHIP RESISTOR 27KOHM+-5% 0.1W
R1998	0103834	CHIP RESISTOR 180 OHM+-5% 0.1W
R1999	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R2851	0700074	CARBON FILM 330KOHM+-5% 1/8W
R2852	0700057	CARBON FILM 18KOHM+-5% 1/8W
R2859	0101756	CHIP RESISTOR 1KOHM+-1% 1/8W
R2860	1109024	METAL FILM 294 OHM+-1% 1/8W
R2868	0700046	CARBON FILM 2.7KOHM+-5% 1/8W
R2869	0101944	CARBON FILM 8.2KOHM+-5% 1/4W
R2870	0101944	CARBON FILM 8.2KOHM+-5% 1/4W
R3004	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R3005	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R3006	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R3007	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3014	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R3023	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3024	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R3027	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R3028	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R3029	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3031	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R3032	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R3033	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3034	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R3035	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R3036	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3037	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R3038	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3039	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R3040	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R3041	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3042	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3043	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3044	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3045	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R3202	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R3203	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R3204	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R3205	0700049	CARBON FILM 4.7KOHM+-5% 1/8W
R3206	0103856	CHIP RESISTOR 12KOHM+-5% 0.1W
R3207	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R3208	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3209	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R3210	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3211	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R3212	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R3214	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R3215	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3216	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3217	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R3218	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3219	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3220	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3221	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3222	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R3223	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R3224	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3225	0103879	CHIP RESISTOR 1MOHM+-5% 0.1W
R3226	0700053	CARBON FILM 8.2KOHM+-5% 1/8W

SYMBOL NO	P-NO	DESCRIPTION
R3228	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R3229	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R3230	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3231	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R3232	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3233	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R3234	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3235	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3236	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R3237	0700042	CARBON FILM 1.2KOHM+-5% 1/8W
R3238	0103836	CHIP RESISTOR 270 OHM+-5% 0.1W
R3239	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3242	0103863	CHIP RESISTOR 47KOHM+-5% 0.1W
R3243	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R3244	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R3245	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3246	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3247	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3249	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R3251	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R3255	0700061	CARBON FILM 33KOHM+-5% 1/8W
R3256	0103857	CHIP RESISTOR 15KOHM+-5% 0.1W
R3257	0103861	CHIP RESISTOR 33KOHM+-5% 0.1W
R3258	0700051	CARBON FILM 5.6KOHM+-5% 1/8W
R3301	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3302	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3303	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R3304	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R3305	0103839	CHIP RESISTOR 470 OHM+-5% 0.1W
R3306	0103881	CHIP RESISTOR 2.2MOHM+-10% 0.1W
R3307	0103855	CHIP RESISTOR 10KOHM+-5% 0.1W
R3308	0103831	CHIP RESISTOR 100 OHM+-5% 0.1W
R3311	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R3312	0103853	CHIP RESISTOR 6.8KOHM+-5% 0.1W
R3313	0103844	CHIP RESISTOR 1.2KOHM+-5% 0.1W
R3314	0700025	CARBON FILM 68 OHM+-5% 1/8W
R3325	0700037	CARBON FILM 560 OHM+-5% 1/8W
R3326	0103845	CHIP RESISTOR 1.5KOHM+-5% 0.1W
R3327	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3328	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R3329	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R3330	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3331	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R3332	0103849	CHIP RESISTOR 3.3KOHM+-5% 0.1W
R3333	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3334	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3335	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
R3336	0103837	CHIP RESISTOR 330 OHM+-5% 0.1W
R3337	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3338	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R3339	0103840	CHIP RESISTOR 560 OHM+-5% 0.1W
R3340	0103851	CHIP RESISTOR 4.7KOHM+-5% 0.1W
R3341	0103847	CHIP RESISTOR 2.2KOHM+-5% 0.1W
R3342	0700041	CARBON FILM 1.0KOHM+-5% 1/8W
R3343	0103859	CHIP RESISTOR 22KOHM+-5% 0.1W
R3344	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R3345	0103848	CHIP RESISTOR 2.7KOHM+-5% 0.1W
R3346	0103850	CHIP RESISTOR 3.9KOHM+-5% 0.1W
R3347	0700048	CARBON FILM 3.9KOHM+-5% 1/8W
R3348	0103846	CHIP RESISTOR 1.8KOHM+-5% 0.1W
R3349	0103842	CHIP RESISTOR 820 OHM+-5% 0.1W
R3350	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3351	0103843	CHIP RESISTOR 1KOHM+-5% 0.1W
R3352	0103841	CHIP RESISTOR 680 OHM+-5% 0.1W
R3353	0700036	CARBON FILM 470 OHM+-5% 1/8W

SYMBOL NO	P-NO	DESCRIPTION
R3354	0700045	CARBON FILM 2.2KOHM+-5% 1/8W
RT1301	AY10212	VARIABLE RESISTOR 10KOHM
RT1302	AY10212	VARIABLE RESISTOR 10KOHM
RT1303	AY10211	VARIABLE RESISTOR 10KOHM
RT1304	AY10211	VARIABLE RESISTOR 10KOHM
RT1401	AW10209R	SEMI VARIABLE 47KOHM
RT3201	AW10186R	VARIBLE RESISTOR 4.7KOHM
RT3202	AW10188R	SEMI VARIABLE 22KOHM
RT3203	AW10208R	SEMI VARIABLE 22KOHM+-25% 0.3W
RT3204	AW10188R	SEMI VARIABLE 22KOHM
RT3205	AW10188R	SEMI VARIABLE 22KOHM
RT3206	AW10187R	VARIBLE RESISTOR 10KOHM
RT3207	AW10185R	SEMI VARIABLE 2.2KOHM
RT3301	AW10188R	SEMI VARIABLE 22KOHM
		SEMI-CONDUCTORS
D0001	5328301	DIODE MA151WK(MT)
D0002	5328301	DIODE MA151WK(MT)
D0004	5328301	DIODE MA151WK(MT)
D0005	5339131	DIODE 1SS254
D1201	5339551	DIODE SS1J4
D1301	5339131	DIODE 1SS254
D1405	5328307	DIODE MA151WK
D1407	5339131	DIODE 1SS254
D1410	5339131	DIODE 1SS254
D1412	5339131	DIODE 1SS254
D1413	5328307	DIODE MA151WK
D1414	5339131	DIODE 1SS254
D1415	5328305	DIODE MA151WA
D1420	5328307	DIODE MA151WK
D1601	5339233	DIODE 1SR35-400A
D1602	5339233	DIODE 1SR35-400A
D1609	1330011	DIODE DINS4
D1701	5339233	DIODE 1SR35-400A
D1702	5339233	DIODE 1SR35-400A
⚠D1851	5333351	DIODE D3SBA20
⚠D1852	5333351	DIODE D3SBA20
D1856	5339231	DIODE 1SR35-100A
D1857	5339231	DIODE 1SR35-100A
D1901	5339131	DIODE 1SS254
D1904	5339551	DIODE SS1J4
D1905	5339131	DIODE 1SS254
D1908	5339551	DIODE SS1J4
D1909	5339551	DIODE SS1J4
D1910	5339551	DIODE SS1J4
D1911	5339131	DIODE 1SS254
D2101	5380933	LED GL451
D2851	5339171	DIODE 1SS130M
D2852	5339171	DIODE 1SS130M
D2853	5339171	DIODE 1SS130M
D2854	5339171	DIODE 1SS130M
D3201	5339131	DIODE 1SS254
D3202	5339131	DIODE 1SS254
D3204	5339131	DIODE 1SS254
D3205	5339551	DIODE SS1J4
IC0001	1362321	IC HA118162NT
IC1201	1349041	IC UPD16312GB-3B4
IC1401	1347092	IC BA7795LS
IC1402	5300641	IC BA7755
IC1601	CP10291	IC BA6209
IC1602	5364594	IC NJM2903D
IC1603	5350601	IC NJM4558D
IC1701	CP12571	IC M34510M2-179SP
IC1702	CK19602R	IC RN5VS45AA

SYMBOL NO	P-NO	DESCRIPTION
IC1901	CK22382	IC HD6433977RB52F
IC1903	CK14881	IC AT24C02N
IC1904	5359901	IC UPD4066C
IC1905	1366743	IC S-80725AL-AN
IC2101	5327521	PHOTO TRANSISTOR SPI315-C
IC2102	5327521	PHOTO TRANSISTOR SPI315-C
IC2851	1361882	IC PQ30RV21
IC2852	1341956	IC M5278D09
IC3201	CP12521	IC LA7195
IC3202	1373682	IC HT7323A
IC3203	5362263	IC MSM6965RS
IC3301	1362401	IC M52096SP
IC3303	CK16671R	IC BA7653AF
IC3305	1347111	IC M52363SP
Q0001	5328793	TRANSISTOR DTC144EK
Q0002	5328972	TRANSISTOR 2SC2412K-RT
Q0003	5328972	TRANSISTOR 2SC2412K-RT
Q0004	5328972	TRANSISTOR 2SC2412K-RT
Q0005	5328793	TRANSISTOR DTC144EK
Q0006	5328972	TRANSISTOR 2SC2412K-RT
Q1403	CA11262R	TRANSISTOR DTC144EKA
Q1407	CA11262R	TRANSISTOR DTC144EKA
Q1408	CA11262R	TRANSISTOR DTC144EKA
Q1409	CA11262R	TRANSISTOR DTC144EKA
Q1410	CA11252R	TRANSISTOR DTA144EKA
Q1411	1320004	TRANSISTOR 2SA854SQR
Q1412	5328974	TRANSISTOR 2SC2412K
Q1413	5323172	TRANSISTOR 2SC1214CD
Q1414	5328974	TRANSISTOR 2SC2412K
Q1415	CA11262R	TRANSISTOR DTC144EKA
Q1417	CA11262R	TRANSISTOR DTC144EKA
Q1418	CA11262R	TRANSISTOR DTC144EKA
Q1419	CA11252R	TRANSISTOR DTA144EKA
Q1420	CA11262R	TRANSISTOR DTC144EKA
Q1422	CA11261R	TRANSISTOR DTC124EKA
Q1424	CA11262R	TRANSISTOR DTC144EKA
Q1425	CA11262R	TRANSISTOR DTC144EKA
Q1427	CA11262R	TRANSISTOR DTC144EKA
Q1428	CA11262R	TRANSISTOR DTC144EKA
Q1501	5328974	TRANSISTOR 2SC2412K
Q1510	CA11272R	TRANSISTOR 2SA1037K-
Q1511	5328974	TRANSISTOR 2SC2412K
Q1601	CA11262R	TRANSISTOR DTC144EKA
Q1609	CA11262R	TRANSISTOR DTC144EKA
Q1612	CA11262R	TRANSISTOR DTC144EKA
Q1613	CA11262R	TRANSISTOR DTC144EKA
Q1614	CA11252R	TRANSISTOR DTA144EKA
Q1615	CA11262R	TRANSISTOR DTC144EKA
Q1616	CA11262R	TRANSISTOR DTC144EKA
Q1620	5328974	TRANSISTOR 2SC2412K
Q1621	CA11272R	TRANSISTOR 2SA1037K-
Q1622	5328974	TRANSISTOR 2SC2412K
Q1713	CA11262R	TRANSISTOR DTC144EKA
Q1715	1323082	TRANSISTOR 2SA1036K
Q1716	1323082	TRANSISTOR 2SA1036K
Q1718	CA11262R	TRANSISTOR DTC144EKA
Q1719	CA11262R	TRANSISTOR DTC144EKA
Q1720	CA11262R	TRANSISTOR DTC144EKA
Q1721	CA11262R	TRANSISTOR DTC144EKA
Q1723	CA11262R	TRANSISTOR DTC144EKA
Q1726	CA11262R	TRANSISTOR DTC144EKA
Q1851	CF10311	TRANSISTOR 2SD2398
Q1902	CA11251R	TRANSISTOR DTA124EKA
Q1904	5328974	TRANSISTOR 2SC2412K
Q1905	5327262	TRANSISTOR 2SB1326
Q1906	CA11261R	TRANSISTOR DTC124EKA
Q1907	CA11262R	TRANSISTOR DTC144EKA
Q1909	5328974	TRANSISTOR 2SC2412K
Q1910	5328974	TRANSISTOR 2SC2412K
Q2101	5324661	PHOTO TRANSISTOR PT-83F1H
Q2102	5324661	PHOTO TRANSISTOR PT-83F1H
Q2851	5327032	TRANSISTOR 2SA673D
Q2863	CF10311	TRANSISTOR 2SD2398
Q3005	CA11272R	TRANSISTOR 2SA1037K-
Q3007	5328974	TRANSISTOR 2SC2412K
Q3008	5328974	TRANSISTOR 2SC2412K
Q3009	CA11272R	TRANSISTOR 2SA1037K-R
Q3010	5328974	TRANSISTOR 2SC2412K
Q3011	5328974	TRANSISTOR 2SC2412K
Q3201	5328974	TRANSISTOR 2SC2412K
Q3203	CA11272R	TRANSISTOR 2SA1037K-
Q3204	CA11272R	TRANSISTOR 2SA1037K-
Q3205	CA11262R	TRANSISTOR DTC144EKA
Q3206	5328974	TRANSISTOR 2SC2412K
Q3208	5328974	TRANSISTOR 2SC2412K
Q3209	5328974	TRANSISTOR 2SC2412K
Q3210	5328974	TRANSISTOR 2SC2412K
Q3211	CA11272R	TRANSISTOR 2SA1037K-
Q3217	5328974	TRANSISTOR 2SC2412K
Q3218	5328974	TRANSISTOR 2SC2412K
Q3219	CA11262R	TRANSISTOR DTC144EKA
Q3301	CA11272R	TRANSISTOR 2SA1037K-
Q3302	CA11272R	TRANSISTOR 2SA1037K-
Q3305	CA11262R	TRANSISTOR DTC144EKA
Q3306	CA11272R	TRANSISTOR 2SA1037K-
Q3307	CA11262R	TRANSISTOR DTC144EKA
Q3308	CA11262R	TRANSISTOR DTC144EKA
Q3309	CA11262R	TRANSISTOR DTC144EKA
Q3310	CA11262R	TRANSISTOR DTC144EKA
Q3311	5328974	TRANSISTOR 2SC2412K
Q3312	5328974	TRANSISTOR 2SC2412K
Q3313	CA11262R	TRANSISTOR DTC144EKA
⚠QF1201	5721941	IC PROTECTOR
⚠QF1901	5721941	IC PROTECTOR
ZD1202	5339262	DIODE HZS6-C2
ZD1601	5339478	DIODE HZS11C3
ZD1605	5339282	DIODE HZS6-B2
ZD1851	5339482	DIODE HZS15-2
ZD1901	5339262	DIODE HZS6-C2
ZD2851	5339254	DIODE HZS30-1
ZD2858	5339274	DIODE HZS15-3
		TRANSFORMERS
T1401	5261533	TRANSFORMER
⚠T1852	5214535	TRANSFORMER, POWER
		COILS
L0001	5159154	CHOKE COIL 100UH
L0002	5159154	CHOKE COIL 100UH
L0003	0770057	CHOKE COIL 100UH+-5%
L0004	0770057	CHOKE COIL 100UH+-5%
L0005	0770057	CHOKE COIL 100UH+-5%
L0006	0770057	CHOKE COIL 100UH+-5%
L0007	5159146	CHOKE COIL 27UH
L1401	0770057	CHOKE COIL 100UH+-5%
L1402	BH10201	COIL 33MH
L1502	5159143	COIL 15UH
L1503	5159134	COIL 3.3UH

SYMBOL NO	P-NO	DESCRIPTION
L1601	0770057	CHOKE COIL 100UH+-5%
L1703	0770057	CHOKE COIL 100UH+-5%
⚠L1851	5220242	COIL
L3002	0770057	CHOKE COIL 100UH+-5%
L3004	0770064	CHOKE COIL 330UH+-5%
L3005	0770066	CHOKE COIL 470UH+-5%
L3006	5159151	CHOKE COIL 56UH
L3007	5159145	CHOKE COIL 22UH
L3008	0770057	CHOKE COIL 100UH+-5%
L3009	0770068	CHOKE COIL 680UH+-5%
L3201	0770057	CHOKE COIL 100UH+-5%
L3202	0770057	CHOKE COIL 100UH+-5%
L3203	0770057	CHOKE COIL 100UH+-5%
L3204	5159147	CHOKE COIL 33UH
L3205	5159134	COIL 3.3UH
L3207	0770057	CHOKE COIL 100UH+-5%
L3208	5159143	COIL 15UH
L3209	5159149	CHOKE COIL 47UH
L3211	5159148	CHOKE COIL 39UH
L3301	5159158	CHOKE COIL 220UH
L3302	0770057	CHOKE COIL 100UH+-5%
L3303	0770057	CHOKE COIL 100UH+-5%
L3304	0770057	CHOKE COIL 100UH+-5%
L3307	0770057	CHOKE COIL 100UH+-5%
L3308	5159145	CHOKE COIL 22UH
L3309	5159151	CHOKE COIL 56UH
L3310	5159151	CHOKE COIL 56UH
L3311	5159149	CHOKE COIL 47UH
L3312	5159148	CHOKE COIL 39UH
L3313	5159148	CHOKE COIL 39UH
		CRYSTALS
X1701	BP10731R	CRYSTAL
X1901	BP10251	CRYSTAL
X1902	BP10501	CRYSTAL
X3201	5778874	CRYSTAL
		MISCELLANEOUS
BL1901	5272378	LC FILTER
BL1902	5272376	FILTER
BT1901	FS10611	BATTERY
BZ1901	5400072	BUZZER
CN0001	5813916	MINI CONNECTOR
CN0002	5846303	CONNECTOR
CP3202	5163805	FILTER,LOW PASS
DG1201	DD10131	DISPLAY,FLOURESCENT
DL3204	5785387	DELAY LINE
⚠FU1851	5721061	FUSE 1.6A
⚠FU1852	5720177	FUSE 2A
⚠FU1853	5720174	FUSE 630MA
PG0001	5655102	CONNECTOR
PG0002	5666569	MINI PLUG
PG0003	5666149	MINI PLUG
PG1121	5666578	PLUG
PG1122	5666591	MINI PLUG
PG1131	5655042	PLUG
PG1132	5655042	PLUG
PG1135	ED10697	PLUG
PG1201	5665631	MINI PLUG
PG1202	5665631	MINI PLUG
PG1203	5669595	CONNECTOR
PG1303	5668168	MINI PLUG
PG1401	5666609	MINI PLUG

SYMBOL NO	P-NO	DESCRIPTION
PG1601	5666562	MINI PLUG
PG1602	5666566	PLUG
PG1603	5666567	MINI PLUG
PG1762	5666575	MINI PLUG
PG1901	5662855	PLUG
PG1902	5666145	MINI CONNECTOR
PG1903	5666151	MINI PLUG
PG1904	5665641	MINI PLUG
PG1905	5665641	MINI PLUG
PG2101	1830141	PLUG
PG2851	5666145	MINI CONNECTOR
PG2852	5666151	MINI PLUG
PG3201	5666149	MINI PLUG
PG3202	5666569	MINI PLUG
PG3210	5666563	MINI PLUG
RJ1401	ER10181	JACK
S1201	5634884	SWITCH
S1202	5634884	SWITCH
S1203	5634884	SWITCH
S1204	5634884	SWITCH
S1205	5634884	SWITCH
S1206	5634884	SWITCH
S1207	5634884	SWITCH
S1208	5634884	SWITCH
S1212	5634884	SWITCH
S1213	5634884	SWITCH
S1214	5634884	SWITCH
S1215	5634884	SWITCH
S1216	5634884	SWITCH
S1217	5634884	SWITCH
S1301	5634884	SWITCH
S1302	5634884	SWITCH
S1303	5634884	SWITCH
S1304	5634884	SWITCH
S1305	5634884	SWITCH
S1306	5634884	SWITCH
S1307	5634884	SWITCH
S1308	5634884	SWITCH
S1309	5634884	SWITCH
S1310	5634884	SWITCH
S1311	5634884	SWITCH
S2101	5635631	SWITCH
S2102	5635331	SWITCH
S2104	5610891	SWITCH

CHAPTER 7 SCHEMATIC, CIRCUIT BOARD AND BLOCK DIAGRAMS/ MICROPROCESSOR PIN FUNCTION TABLES

Cautions when using schematic diagrams

Caution for safety

The parts marked ⚠ are critical for safety. Be sure to use the specified parts to ensure safety when replacing them.

1. Values in schematic diagrams

The values, dielectric strength (power capacitance) and tolerances of the resistors (excluding variable resistors) and capacitors are indicated in the schematic diagrams using abbreviations.

[Resistors]

Item	Indication
Value	No indication ..... Ω K ..... k Ω M ..... M Ω
Tolerance	No indication ..... ±5% (All tolerances other than ± 5% are indicated in the schematic diagrams)
Power capacitance	No indication ..... 1/8W (1/16W for leadless resistors without indication) All capacitances other than the above are indicated in the schematic diagrams.

[Capacitors]

Item	Indication
Value	No indication ..... μF P ..... pF
Dielectric strength	No indication ..... 50V (All dielectric strengths other than 50V are indicated in the schematic diagrams.)

[Coils]

Item	Indication
Value	μ ..... μH m ..... mH

Cautions when using circuit board diagrams

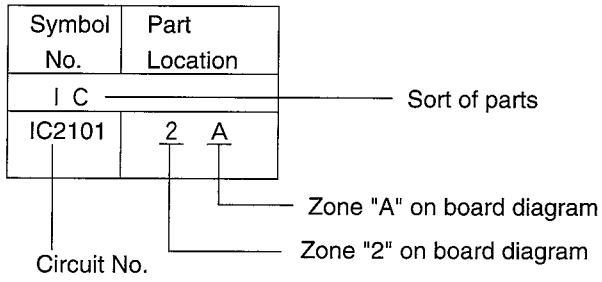
1. Identifications of sides A/B in circuit board diagrams

1) Board having a pattern on one side and parts on both sides.
   - Side A: Shows discrete parts, viewed from the pattern side.
   - Side B: Shows leadless parts, viewed from the pattern side.
2) Board having patterns on both sides and parts on both sides.
   - Side A: Shows parts and patterns which can be seen when the case is opened.
   - Side B: Shows parts and the pattern on the back of side A.

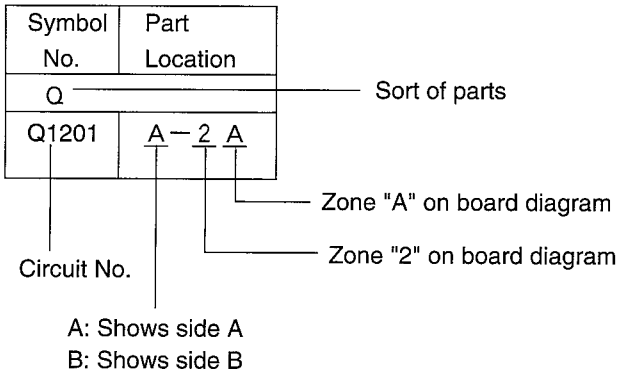
2. Table for indexing locations of parts

This table shows locations of each part on the circuit board diagrams. The locations are indicated using the guide scales on the external lines of diagrams.

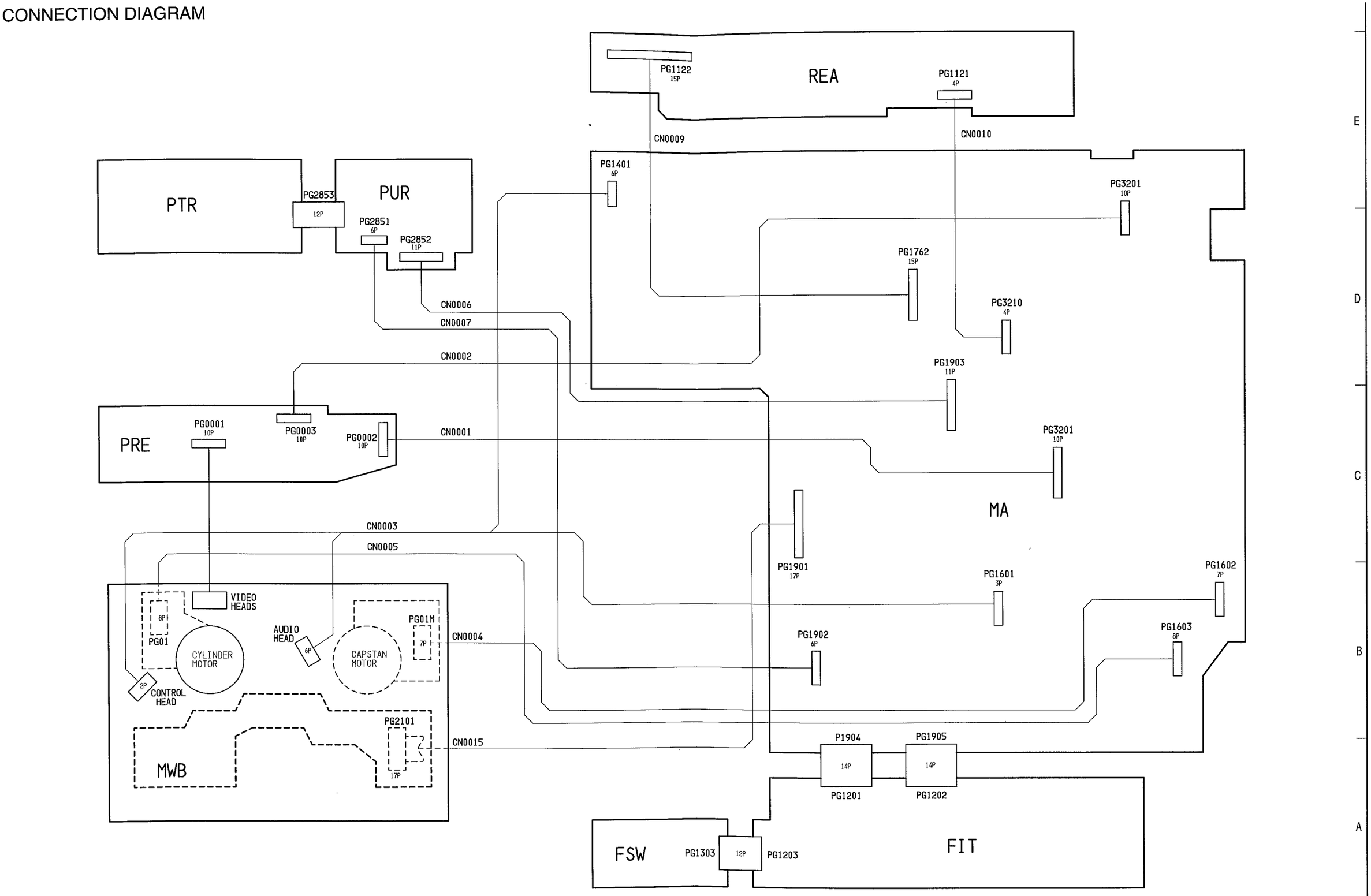
1) In case of one-layer board



2) In case of side A/B indication board

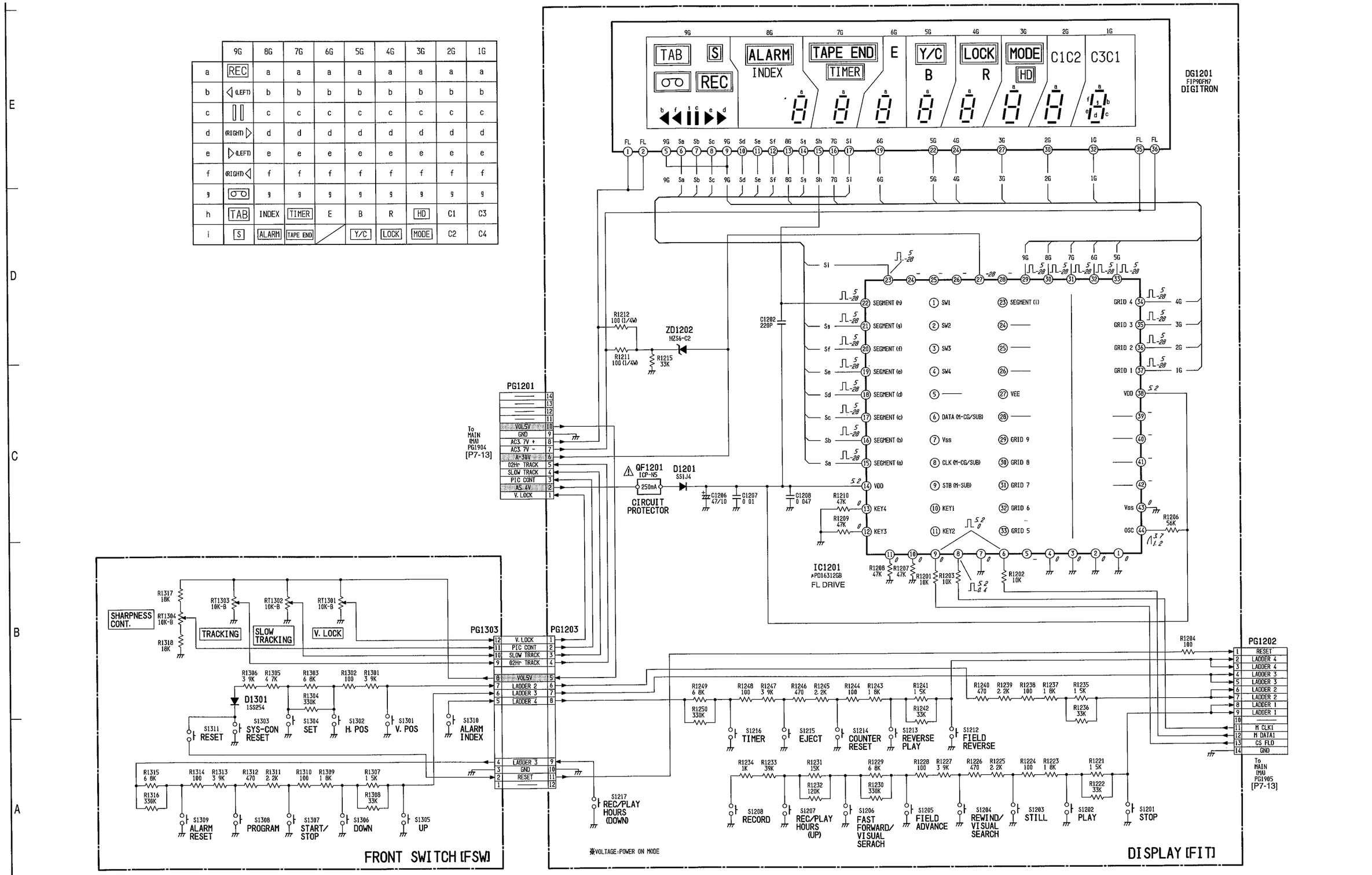


CONNECTION DIAGRAM

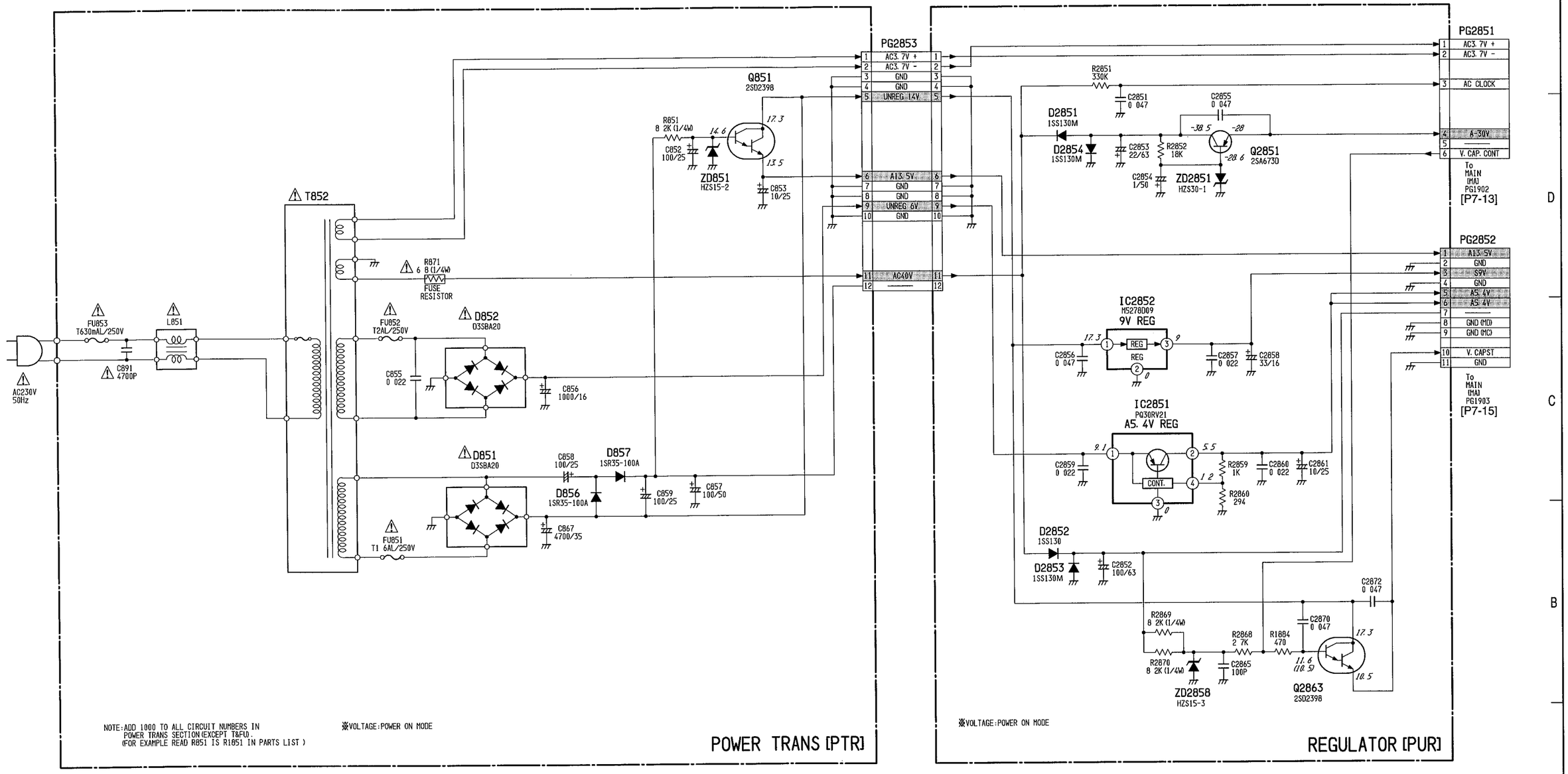


DISPLAY [FIT], FRONT SWITCH [FSW] SCHEMATIC DIAGRAM

	9G	8G	7G	6G	5G	4G	3G	2G	1G
a	REC	a	a	a	a	a	a	a	a
b	◁ (LEFT)	b	b	b	b	b	b	b	b
c	‖	c	c	c	c	c	c	c	c
d	(RIGHT) ▷	d	d	d	d	d	d	d	d
e	▷ (LEFT)	e	e	e	e	e	e	e	e
f	(RIGHT) ◁	f	f	f	f	f	f	f	f
g	⧟	g	g	g	g	g	g	g	g
h	TAB	INDEX	TIMER	E	B	R	HD	C1	C3
i	S	ALARM	TAPE END		Y/C	LOCK	MODE	C2	C4



POWER TRANS [PTR], REGULATOR [PUR] SCHEMATIC DIAGRAM



NOTE: ADD 1000 TO ALL CIRCUIT NUMBERS IN POWER TRANS SECTION (EXCEPT T&FU.. (FOR EXAMPLE READ R851 IS R1851 IN PARTS LIST)

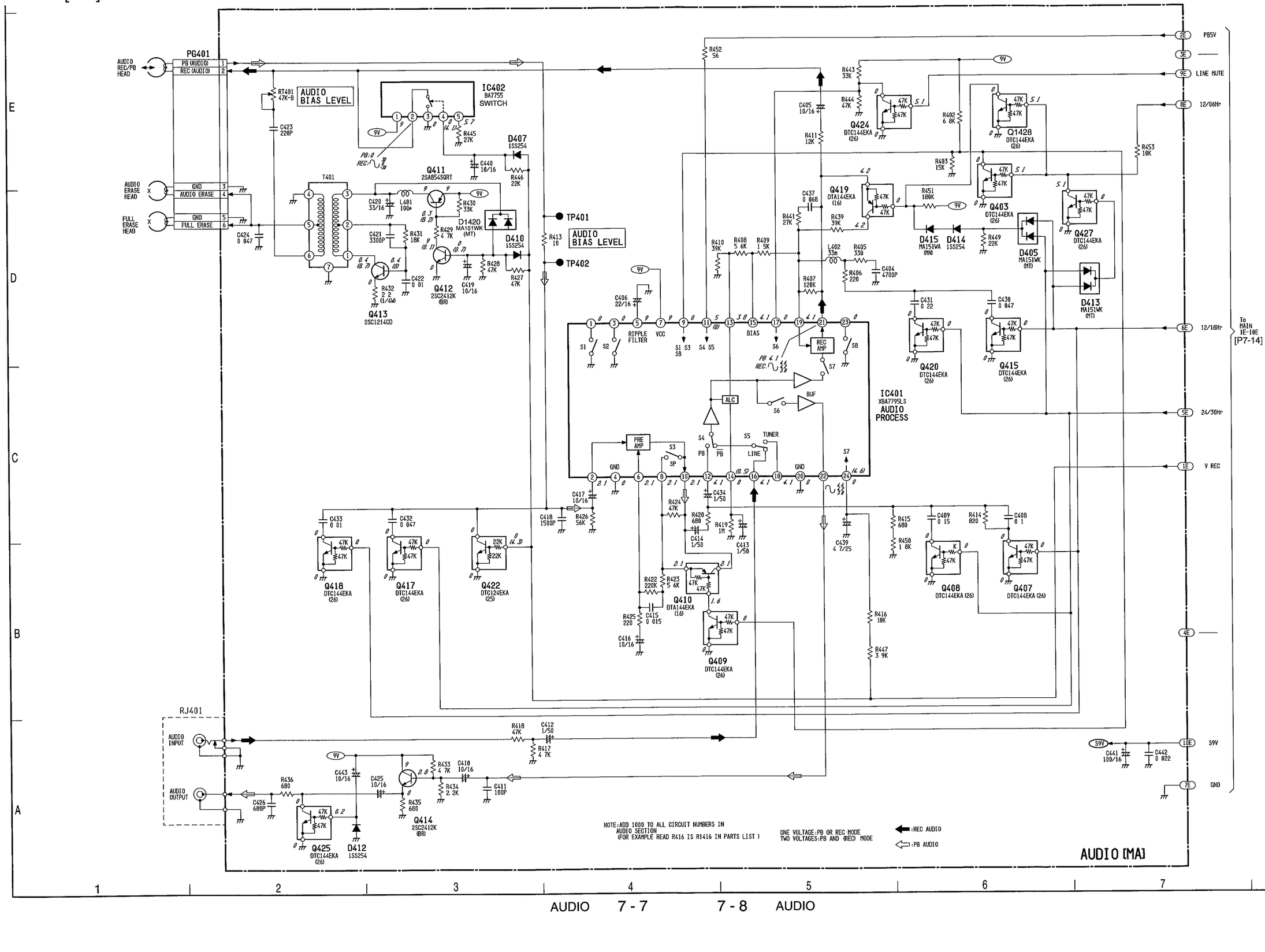
※VOLTAGE: POWER ON MODE

POWER TRANS [PTR]

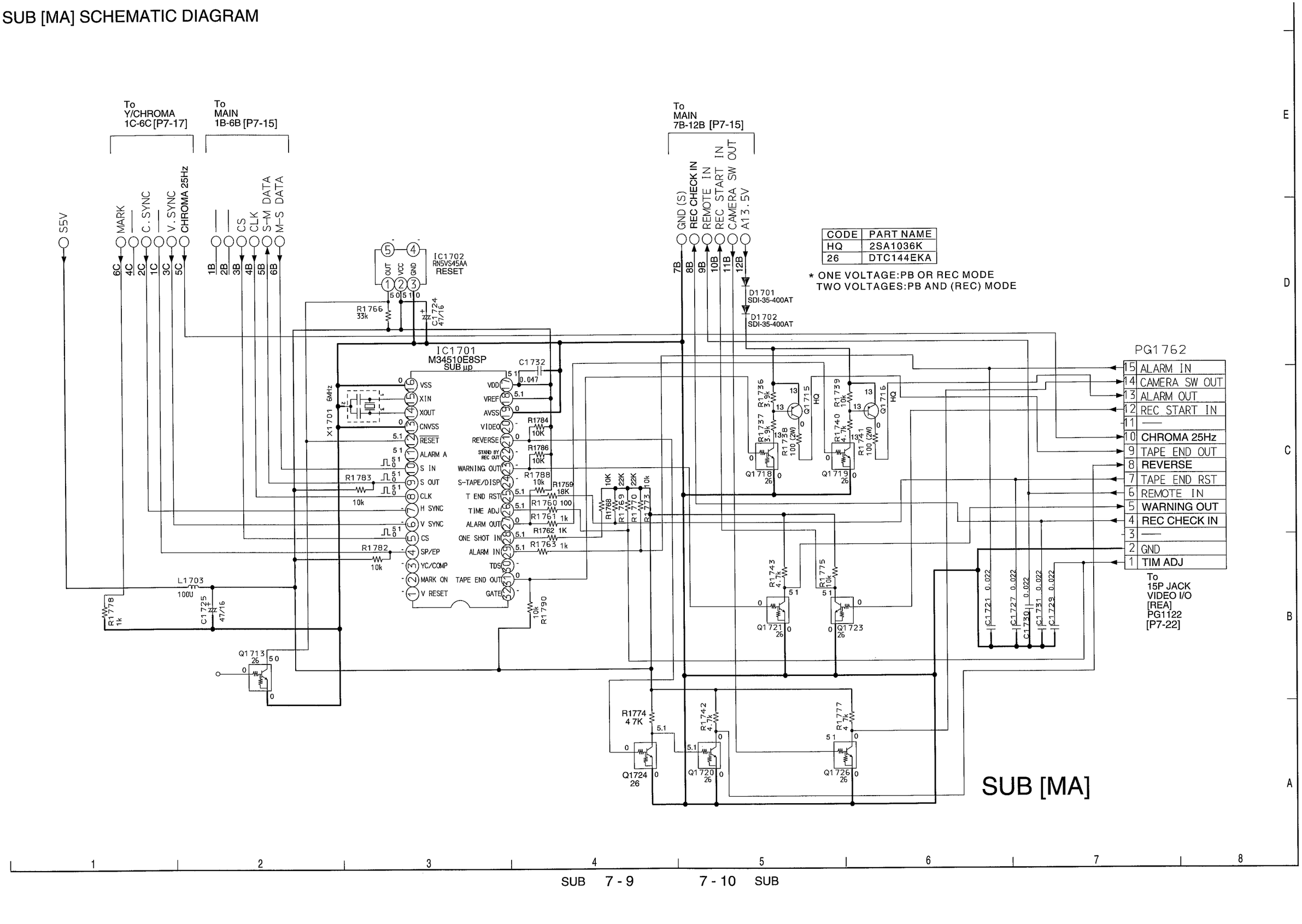
※VOLTAGE: POWER ON MODE

REGULATOR [PUR]

AUDIO [MA] SCHEMATIC DIAGRAM



SUB [MA] SCHEMATIC DIAGRAM

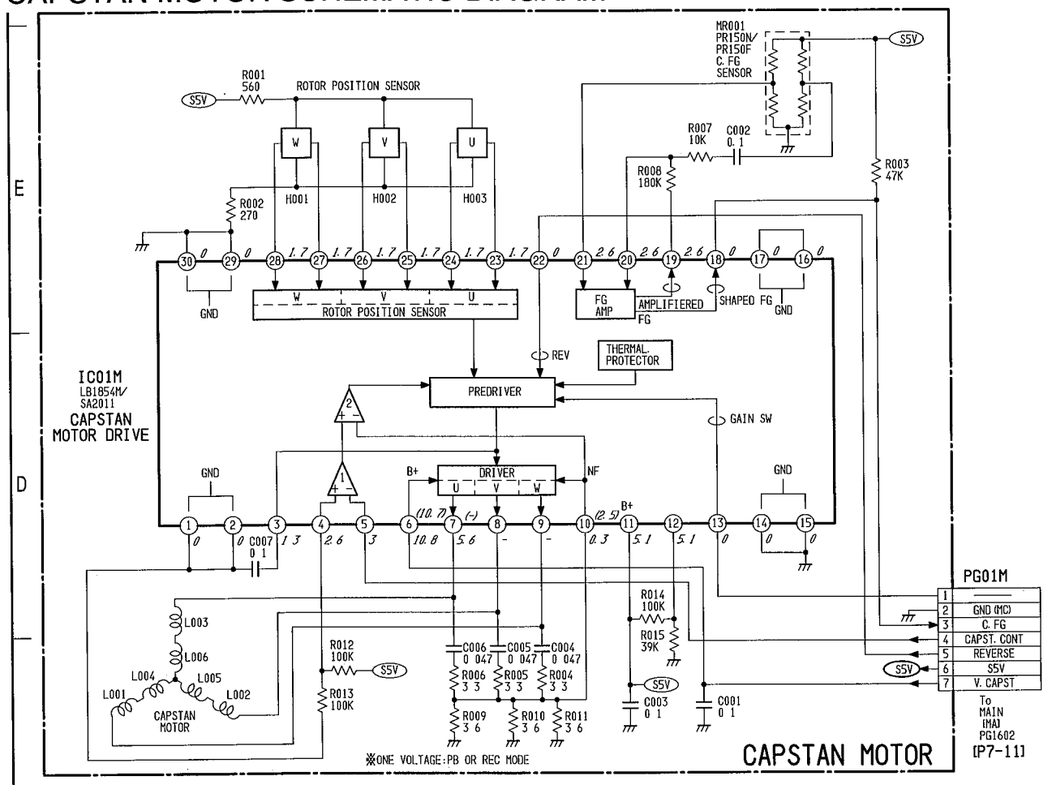


CODE	PART NAME
HQ	2SA1036K
26	DTC144EKA

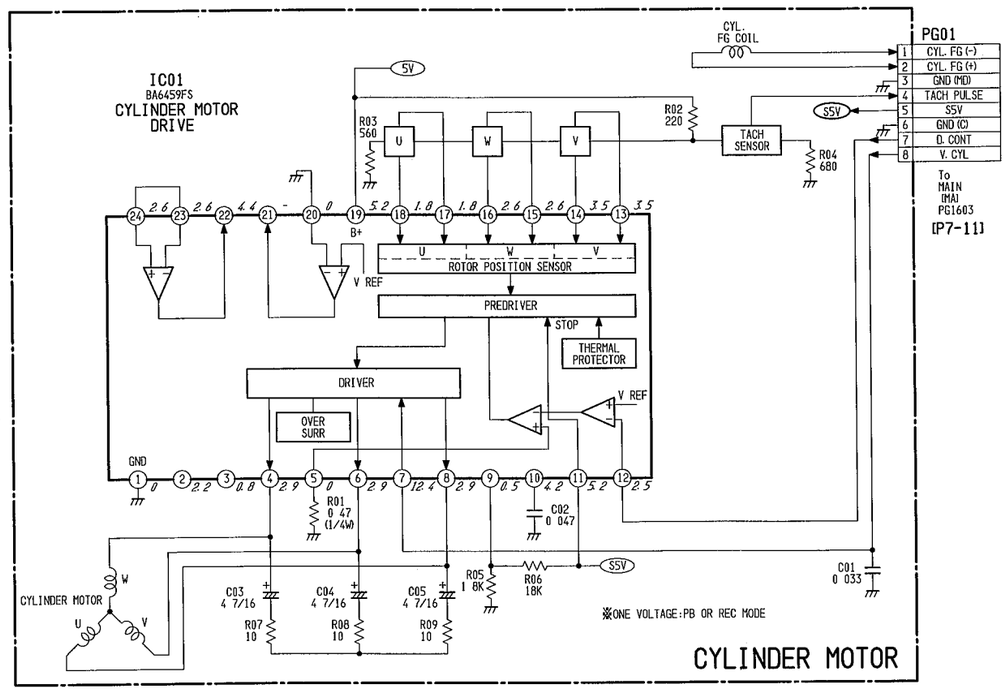
* ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE

SUB [MA]

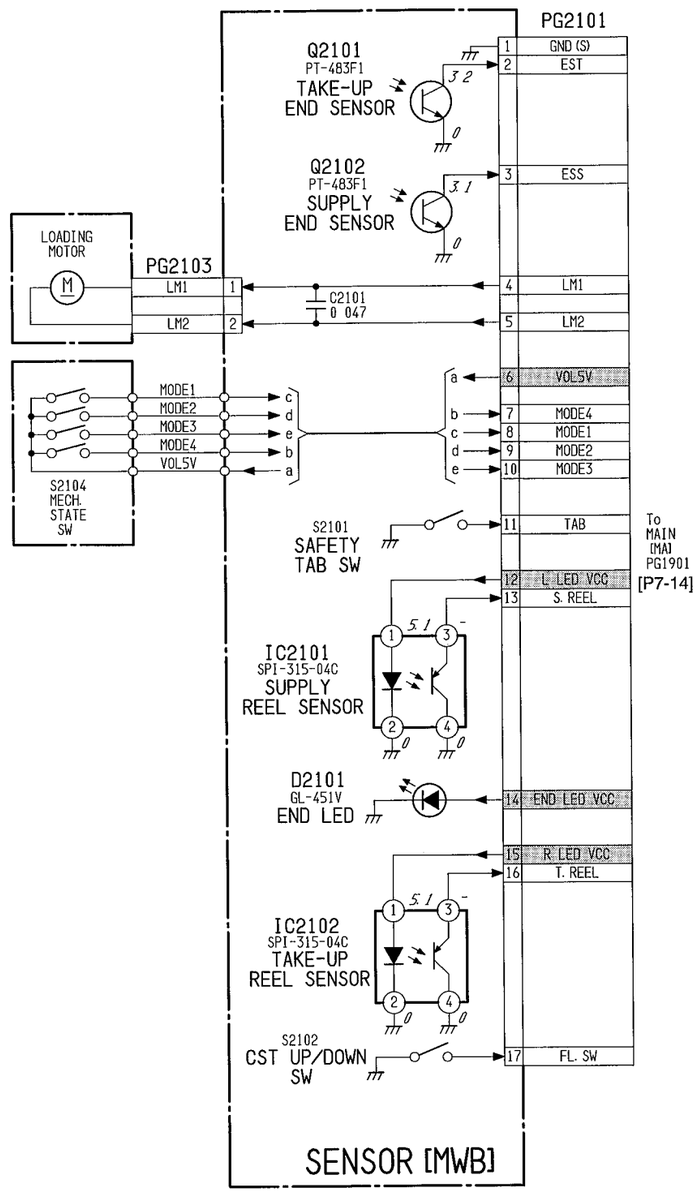
CAPSTAN MOTOR SCHEMATIC DIAGRAM



CYLINDER MOTOR SCHEMATIC DIAGRAM



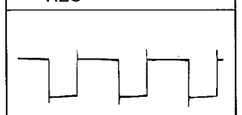
SENSOR [MWB] SCHEMATIC DIAGRAM



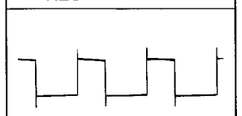
SERVO WAVEFORMS

1-A IC901-24 5.6Vp-p
2V/5.0msec cm
REC/PLAY

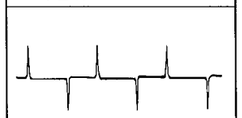
2-A IC901-31 5.7Vp-p
2V/10.0msec cm
REC



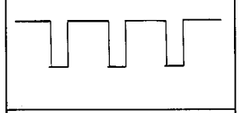
3-A IC901-31 5.7Vp-p
2V/10.0msec cm
REC



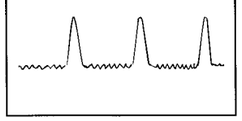
4-B IC901-37 3.0Vp-p
1V/10.0msec.cm
PLAY



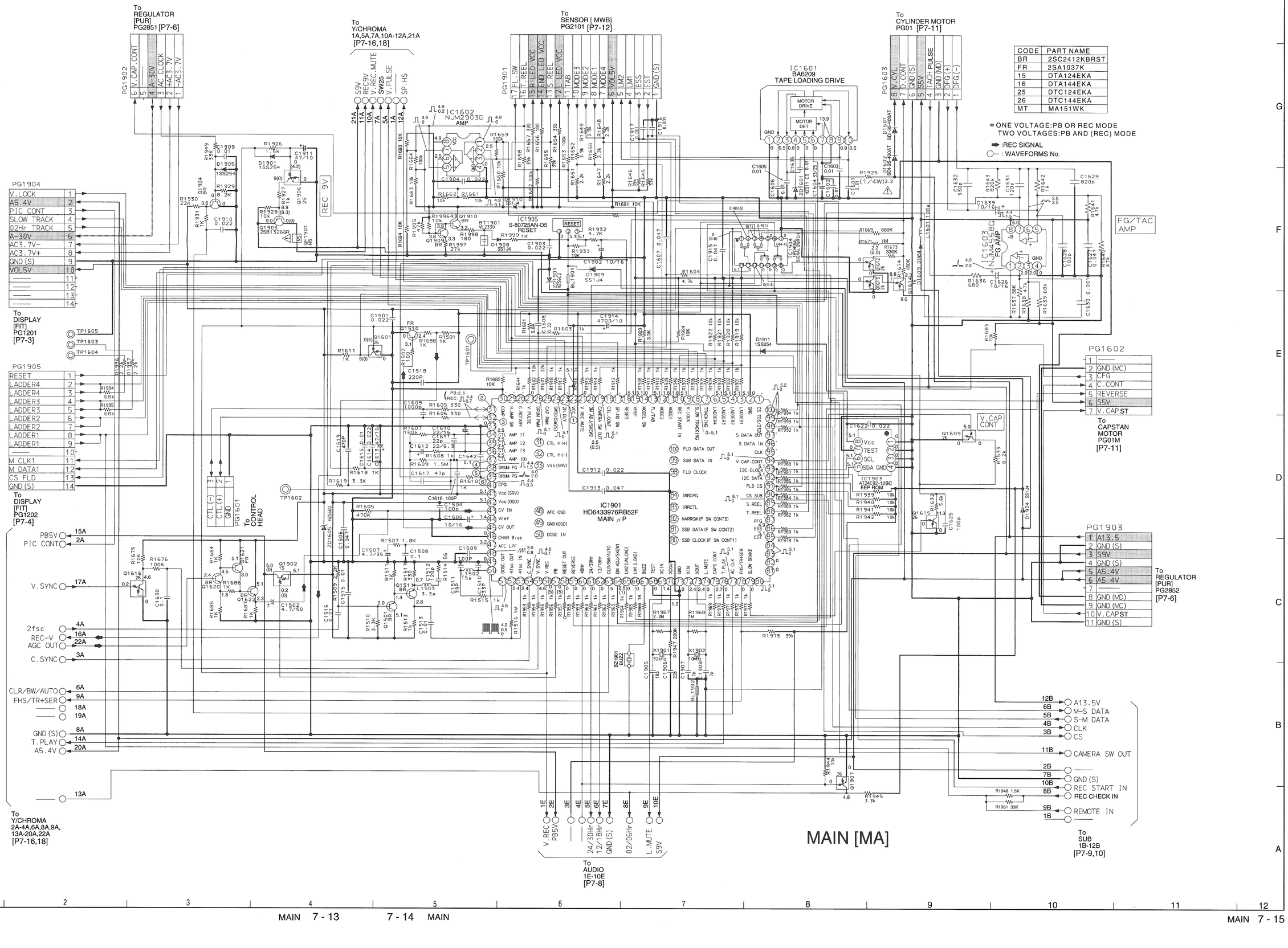
5-A IC901-38 2.8Vp-p
2V/500µsec cm
REC/PLAY



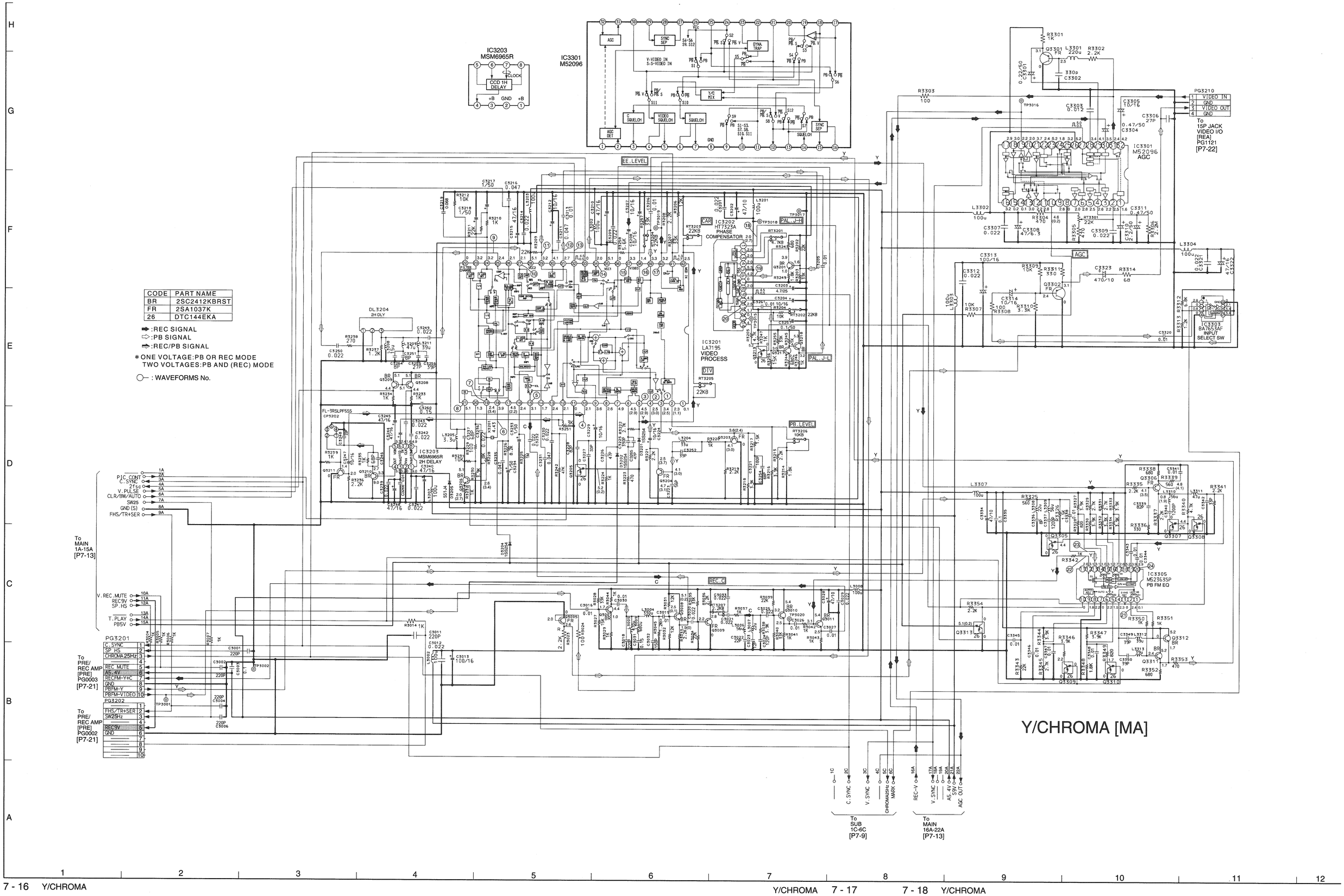
6-A IC901-39 2.0Vp-p
2V/10.0msec cm
REC/PLAY



MAIN [MA] SCHEMATIC DIAGRAM



Y/CHROMA [MA] SCHEMATC DIAGRAM



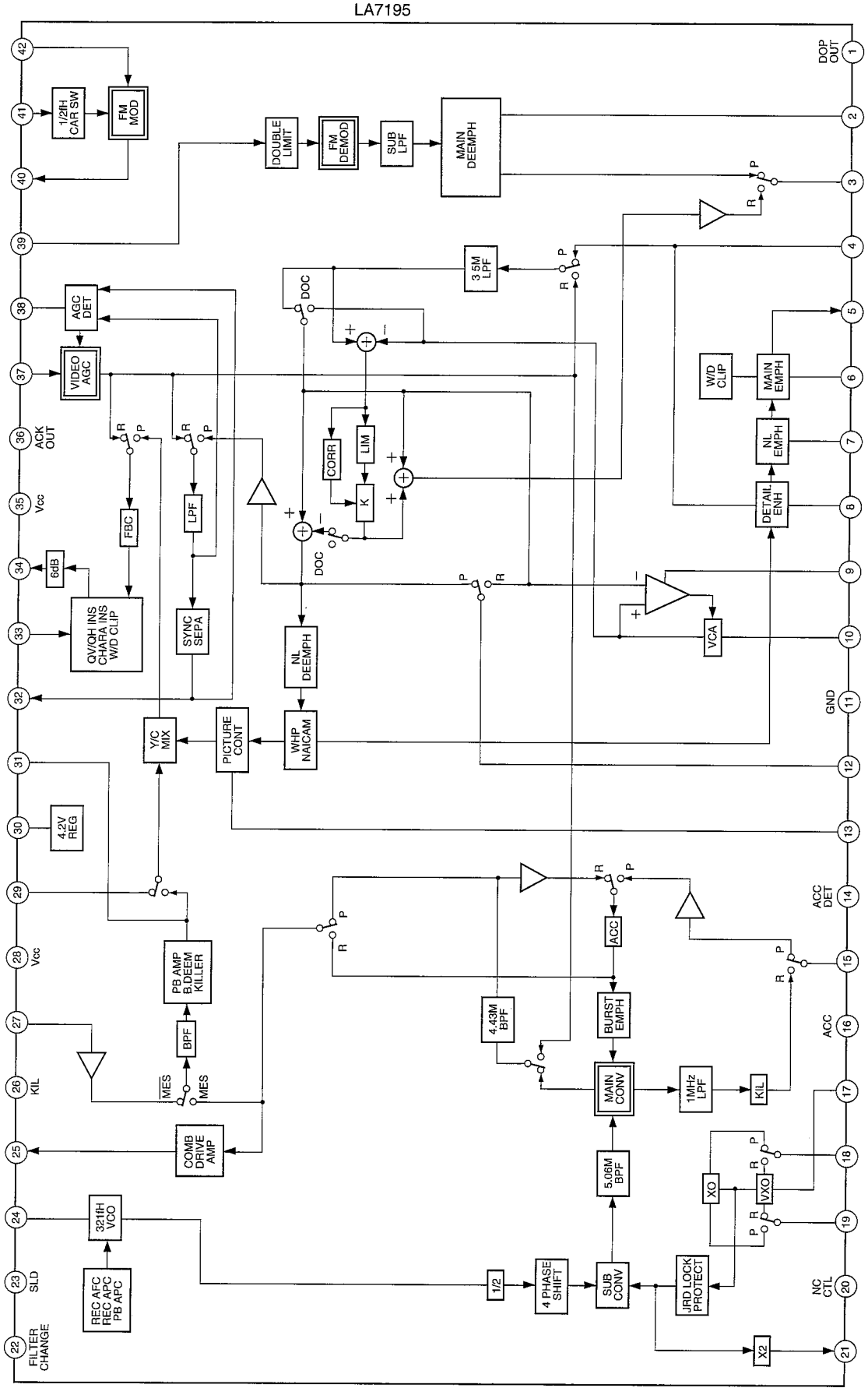
CODE	PART NAME
BR	2SC2412KBRST
FR	2SA1037K
26	DTC144EKA

➡ :REC SIGNAL
⇨ :PB SIGNAL
➡ :REC/PB SIGNAL
* ONE VOLTAGE:PB OR REC MODE
TWO VOLTAGES:PB AND (REC) MODE
○— : WAVEFORMS No.

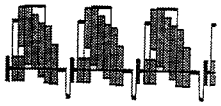
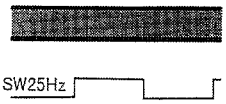
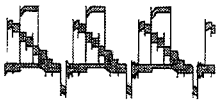
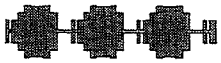
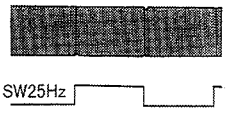
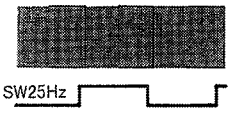
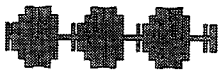
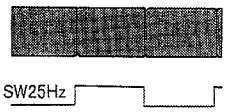
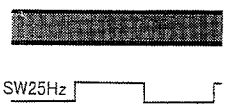
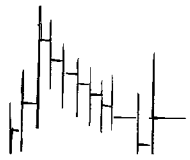
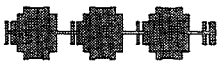
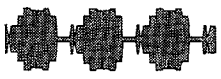
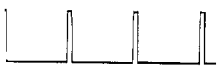
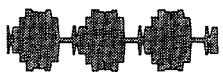
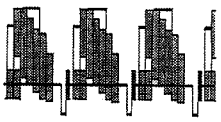
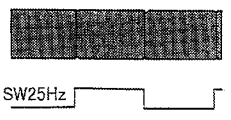
Y/CHROMA [MA]

IC BLOCK DIAGRAMS

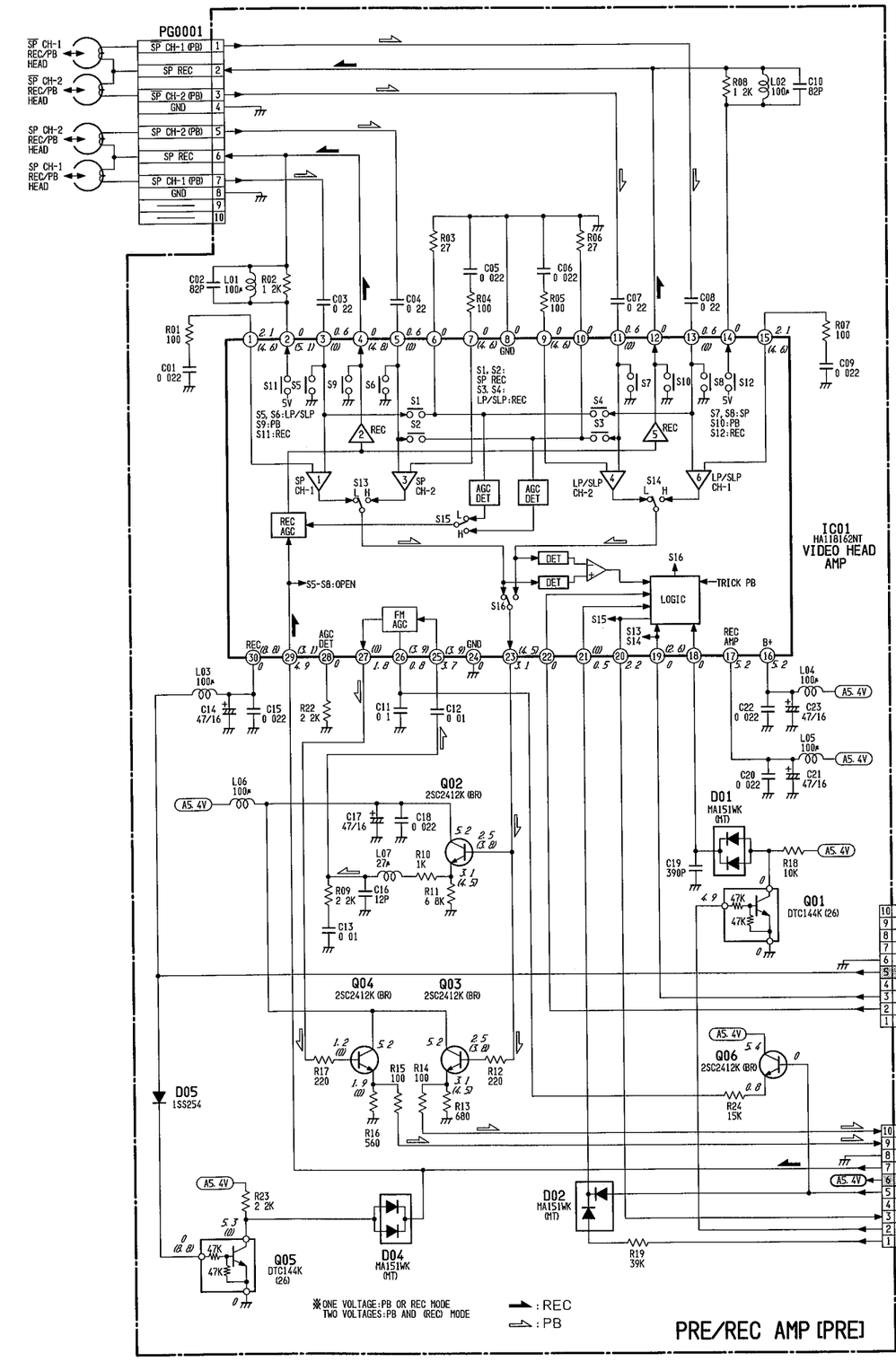
IC3201
LA7195



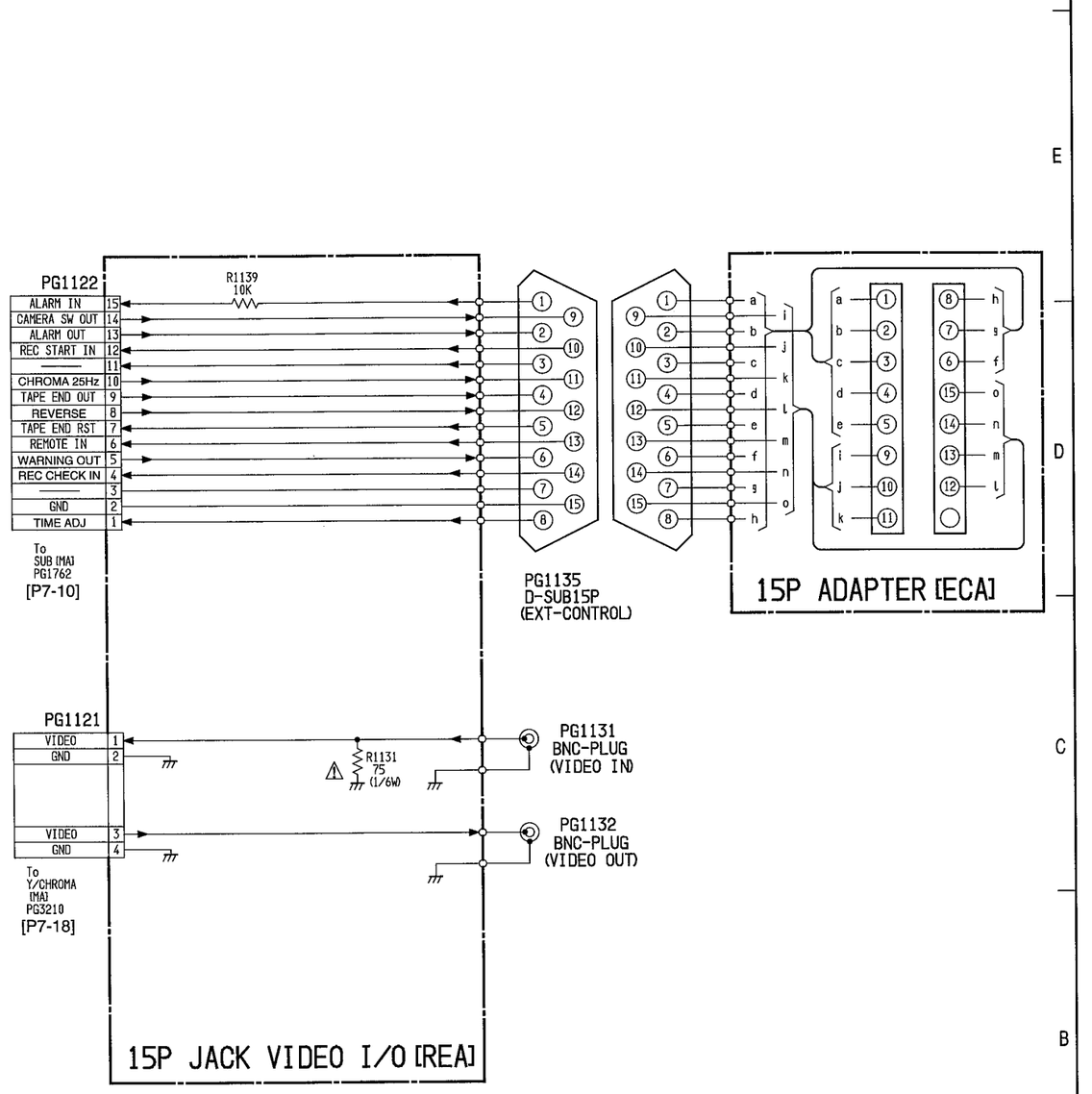
Y/CHROMA WAVEFORMS

1-A IC3201-3 560mVp-p 0.2V/20.0µsec.cm REC	6-A IC3201-18 640mVp-p 0.2V/200nsec.cm REC	10-A IC3201-27 200mVp-p 0.2V/20.0µsec.cm REC/PLAY	15-A IC3201-37 1.0Vp-p 0.5V/20.0µsec.cm REC	22-A IC3305-12 450mVp-p 0.1V/5.0msec.cm REC
				
1-B IC3201-3 530mVp-p 0.1V/20.0µsec.cm PLAY	6-B IC3201-18 840mVp-p 0.2V/200nsec.cm PLAY	11-A IC3201-29 400mVp-p 0.5V/20.0µsec.cm REC	16-A IC3201-39 500mVp-p 0.2V/5.0msec.cm PLAY	23-A IC3305-13 320mVp-p 0.1V/5.0msec.cm PLAY
				
2-A IC3201-4 560mVp-p 0.2V/20.0µsec.cm REC/PLAY	7-A IC3201-19 630mVp-p 0.2V/200nsec.cm REC	11-B IC3201-29 800mVp-p 0.5V/20.0µsec.cm PLAY	17-A IC3201-40 1.0Vp-p 0.2V/5.0msec.cm REC	24-A IC3305-20 300mVp-p 0.1V/5.0msec.cm REC
				
3-A IC3201-5 0.8Vp-p 0.5V/20.0µsec.cm REC	7-B IC3201-19 720mVp-p 0.2V/200nsec.cm PLAY	12-A IC3201-31 400mVp-p 0.5V/20.0µsec.cm REC	18-A IC3202-1 600mVp-p 0.2V/20.0nsec.cm REC/PLAY	
				
4-A IC3201-10 500mVp-p 0.1V/20.0µsec.cm REC/PLAY	8-A IC3201-21 640mVp-p 0.2V/200nsec.cm REC	12-B IC3201-31 700mVp-p 0.5V/20.0µsec.cm PLAY	19-A IC3202-6 250mVp-p 0.1V/20.0µsec.cm PLAY	
5-A IC3201-15 400mVp-p 0.2V/20.0µsec.cm REC	8-B IC3201-21 700mVp-p 0.2V/200nsec.cm PLAY	13-A IC3201-32 4.5Vp-p 2V/20.0µsec.cm REC/PLAY	20-A IC3202-11 500mVp-p 0.1V/20.0µsec.cm PLAY	
				
5-B IC3201-15 100mVp-p 0.2V/20.0µsec.cm PLAY	9-A IC3201-25 900mVp-p 0.2V/20.0µsec.cm REC/PLAY	14-A IC3201-34 2.0Vp-p 0.2V/20.0µsec.cm REC/PLAY	21-A IC3305-2 430mVp-p 0.2V/5.0msec.cm PLAY	
				

PRE/REC AMP [PRE] SCHEMATIC DIAGRAM



15PJACK VIDEO I/O [REA], 15P ADAPTER [ECA] SCHEMATIC DIAGRAM



IDENTIFICATION OF PARTS LOCATION

MA [MAIN]

Symbol No	Parts Location
#	
#1902A	A-2C
#3001	A-3D
#3002	A-2E
BL	
BL1901	A-3B
BL1902	A-2D
BT	
BT1901	A-4B
BZ	
BZ1901	A-2D
C	
C1404	A-6G
C1405	A-5G
C1406	A-6G
C1408	A-6G
C1409	A-6F
C1410	A-6F
C1411	B-6F
C1412	A-6F
C1413	A-6F
C1414	A-6G
C1415	A-6G
C1416	A-6G
C1417	A-6G
C1418	A-6G
C1419	A-6H
C1420	A-5H
C1421	B-5H
C1422	B-6H
C1423	B-6H
C1424	A-6H
C1425	A-5H
C1426	B-6H
C1430	A-6F
C1431	A-6E
C1432	A-6G
C1433	A-6G
C1434	A-6G
C1437	A-5G
C1439	A-6G
C1440	A-6G
C1441	A-5H
C1442	B-6H
C1443	A-5H
C1501	B-3B
C1502	A-2B
C1504	B-2B
C1505	A-2B
C1506	A-2B
C1507	A-2C
C1508	B-2C
C1509	B-2C
C1510	B-2C
C1511	B-2C
C1512	B-2C
C1513	B-2C
C1515	B-1B
C1516	A-1B
C1518	B-2B
C1601	B-4D
C1602	B-4D
C1603	B-4D
C1604	A-4D
C1605	B-4C
C1606	B-4D
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C1608	B-3B
C1609	B-2B
C1610	A-1B
C1611	B-1B
C1612	A-1B
C1613	A-2B
C1614	B-2B
C1615	B-2A
C1616	B-1B
C1617	B-1B
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C1627	A-2A
C1628	B-2A
C1629	B-2A
C1630	B-2A
C1631	B-2A
C1632	B-1A
C1635	B-4D
C1638	B-1C
C1639	A-1A
C1642	A-2B
C1721	B-4F
C1724	A-5H
C1725	A-6F
C1727	A-4F
C1729	B-4G
C1730	B-5F
C1731	B-4G
C1732	B-5H
C1902	A-3B
C1903	A-3B
C1904	B-4B
C1905	B-2D
C1906	B-2D
C1907	B-2C
C1908	B-2C
C1909	B-4A
C1910	B-4A
C1911	A-4A
C1912	B-3C
C1913	A-2C
C1914	A-3B
C1915	B-4D
C1916	B-4C
C1917	B-4C
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C3002	B-2H
C3003	B-2H
C3004	B-2D
C3006	B-2D
C3011	B-2D
C3012	B-2E
C3013	A-2E
C3016	B-2G
C3018	B-1G
C3019	B-1G
C3020	B-1G
C3021	B-1H
C3022	B-2H
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C3025	B-1H
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C3028	A-1H
C3029	B-1H
C3030	B-1G
C3031	B-1H
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C3203	A-4G
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C3206	B-2G
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C3209	B-2G
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C3218	A-2F
C3219	B-2F
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C3243	A-2F
C3244	A-2F
C3245	A-2E
C3246	B-1E
C3247	A-1E
C3248	B-1E
C3249	B-3F
C3250	A-3F
C3251	B-3F
C3252	B-1F
C3254	B-1G
C3255	B-3F
C3256	B-3F
C3257	A-4G
C3260	B-1F
C3261	B-3H
C3264	B-3F
C3265	B-1G
C3266	A-2E
C3301	A-2E
C3302	B-2E
C3303	B-2E
C3304	A-3F
C3305	A-3E
C3306	B-3F
C3307	B-3E
C3308	A-4F
C3309	B-3E
C3310	A-3F
C3311	A-3F
C3312	B-2D
C3313	A-2E
C3314	A-2D
C3320	B-2E
C3321	B-2E
C3322	A-2E
C3323	A-2E
C3334	A-2G
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C3340	B-2H
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C3342	B-2H
C3343	B-3H
C3344	B-3H
C3345	A-2G
C3346	B-2G
C3347	B-2G
C3348	B-2H
C3349	B-2H
C3350	B-2H
CP	
CP3202	A-1E
D	
D1405	B-6F
D1407	A-6G
D1410	A-6H
D1412	A-5H
D1413	B-6F
D1414	A-6F
D1415	B-6F
D1420	B-6H
D1601	A-3B
D1602	A-4D
D1609	A-4D
D1701	A-4E
D1702	A-5E
D1901	A-4A
D1904	A-4C
D1905	A-4A
D1908	A-4B
D1909	A-4B
D1910	A-4B
D1911	A-2C
D3201	A-1G
D3202	A-1G
D3204	A-1E
D3205	A-2F
DL	
DL3204	A-3G
IC	
IC1401	A-6G
IC1402	A-5G
IC1601	A-4D
IC1602	A-4B
IC1603	A-2A
IC1701	A-5G
IC1702	B-5H
IC1901	B-2C
IC1903	B-3D
IC1904	A-4D
IC1905	B-3B
IC3201	A-2F
IC3202	A-3G
IC3203	A-2E
IC3301	A-3E
IC3303	B-2E
IC3305	A-2G
L	
L1401	A-6H
L1402	A-6G
L1502	A-2C
L1503	A-2C
L1601	A-4D
L1703	A-6E
L3002	A-2E
L3004	A-1G
L3005	A-1G
L3006	A-1H
L3007	A-1H
L3008	A-1H
L3009	A-2H
L3201	A-3H
L3202	A-2F
L3203	A-2F
L3204	A-1F
L3205	A-1F
L3207	A-1E
L3208	A-3G
L3209	A-3F
L3211	A-3F
L3301	A-2E
L3302	A-4E
L3303	A-3F
L3304	A-2F
L3307	A-2G
L3308	A-3G
L3309	A-3G
L3310	A-2H
L3311	A-3H
L3312	A-2H
L3313	A-2H
PG	
PG1401	A-6H
PG1601	A-2B
PG1602	A-1B
PG1603	A-1A
PG1762	A-4F
PG1901	A-4C
PG1902	A-4A
PG1903	A-3E
PG1904	A-4A
PG1905	A-3A
PG3201	A-2H
PG3202	A-2D
PG3210	A-3F
Q	
Q1403	B-5H
Q1407	B-6F
Q1408	B-6F
Q1409	B-6G
Q1410	B-6G
Q1411	A-6H
Q1412	B-6H
Q1413	A-6H
Q1414	B-5H
Q1415	B-6E
Q1417	B-6G
Q1418	B-6G
Q1419	B-6G
Q1420	B-6E
Q1422	B-6H
Q1424	B-5G
Q1425	B-5H
Q1427	B-6F
Q1428	B-6F
Q1501	B-1B
Q1510	B-1C
Q1511	B-2B
Q1601	B-1B
Q1609	B-4E
Q1612	B-4D
Q1613	B-4D
Q1614	B-4D
Q1615	B-4E
Q1616	B-1C
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Q1621	B-2B
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Q1902	B-1C
Q1904	B-4A
Q1905	A-4B
Q1906	B-4A
Q1907	B-1C
Q1909	B-4B
Q1910	B-4B
Q3005	B-2E
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Q3009	B-1H
Q3010	B-1H
Q3011	B-1H
Q3201	B-3H
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Q3205	B-1F
Q3206	B-1F
Q3208	B-2F
Q3209	B-2F
Q3210	B-1E
Q3211	B-1E
Q3217	B-4H
Q3218	B-4H
Q3219	B-4H
Q3301	B-2E
Q3302	B-2D
Q3305	B-3H
Q3306	B-3H
Q3307	B-2H
Q3308	B-2H
Q3309	B-2H
Q3310	B-2H
Q3311	B-2H
Q3312	B-2H
Q3313	B-3G
QF	
QF1901	A-4B
R	
R1402	B-5G
R1403	B-5H
R1405	B-6G
R1406	B-6F
R1407	B-6G
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R1664	B-4B
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R1688	B-1C
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R1736	B-4F
R1737	B-4F
R1738	A-4F
R1739	B-4G
R1740	A-4G
R1741	A-4F
R1742	B-5H
R1743	B-5F
R1759	B-4G
R1760	B-4G
R1761	A-4G
R1762	B-4G
R1763	B-4G
R1765	B-5H
R1766	B-5H
R1768	B-4G
R1769	B-4H
R1770	A-4G
R1773	B-4G
R1774	B-5F
R1775	B-5F
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R1783	B-5H
R1784	A-4H
R1786	B-4H
R1788	B-4G
R1790	B-4G
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R1937	B-4B
R1939	B-3C
R1940	B-3C
R1941	B-3D
R1942	B-3D
R1944	A-6E
R1945	A-1C
R1946	B-3C
R1947	B-2C
R1948	B-5F
R1949	A-4A
R1951	B-5F
R1953	A-1C
R1954	A-1C
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R1965	A-2D
R1966	A-2D
R1967	B-2C
R1968	B-2C
R1969	B-2D
R1970	A-1D
R1971	A-1D
R1972	B-2C
R1973	B-2C
R1975	A-2C
R1979	B-3D
R1980	B-3C
R1982	B-3C
R1983	B-3D
R1984	B-3D
R1985	A-3D
R1986	B-3C
R1987	B-3C
R1988	B-3C
R1992	A-3C
R1993	A-3C
R1994	B-3C
R1995	B-4B
R1996	B-4B
R1997	B-4C
R1998	B-4B
R1999	B-4B
R3004	A-2H
R3005	A-2H
R3006	A-2D
R3007	B-2D
R3014	A-1D
R3023	B-2E
R3024	B-2E
R3027	B-1G
R3028	B-1G
R3029	B-1G
R3031	B-1G
R3032	B-1G
R3033	B-1G
R3034	B-1H
R3035	B-1H
R3036	B-1H
R3037	A-1H
R3038	B-1H
R3039	B-1H
R3040	B-1H
R3041	B-1H
R3042	B-1H
R3043	B-1H
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R3045	B-1G
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R3204	B-4H
R3205	A-4H
R3206	B-2G
R3207	B-2G
R3208	B-2G
R3209	B-2F
R3210	B-2F
R3211	B-2F
R3212	B-2F
R3214	B-1G
R3215	B-1G
R3216	B-2G
R3217	B-1G
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R3234	B-2F
R3235	B-1E
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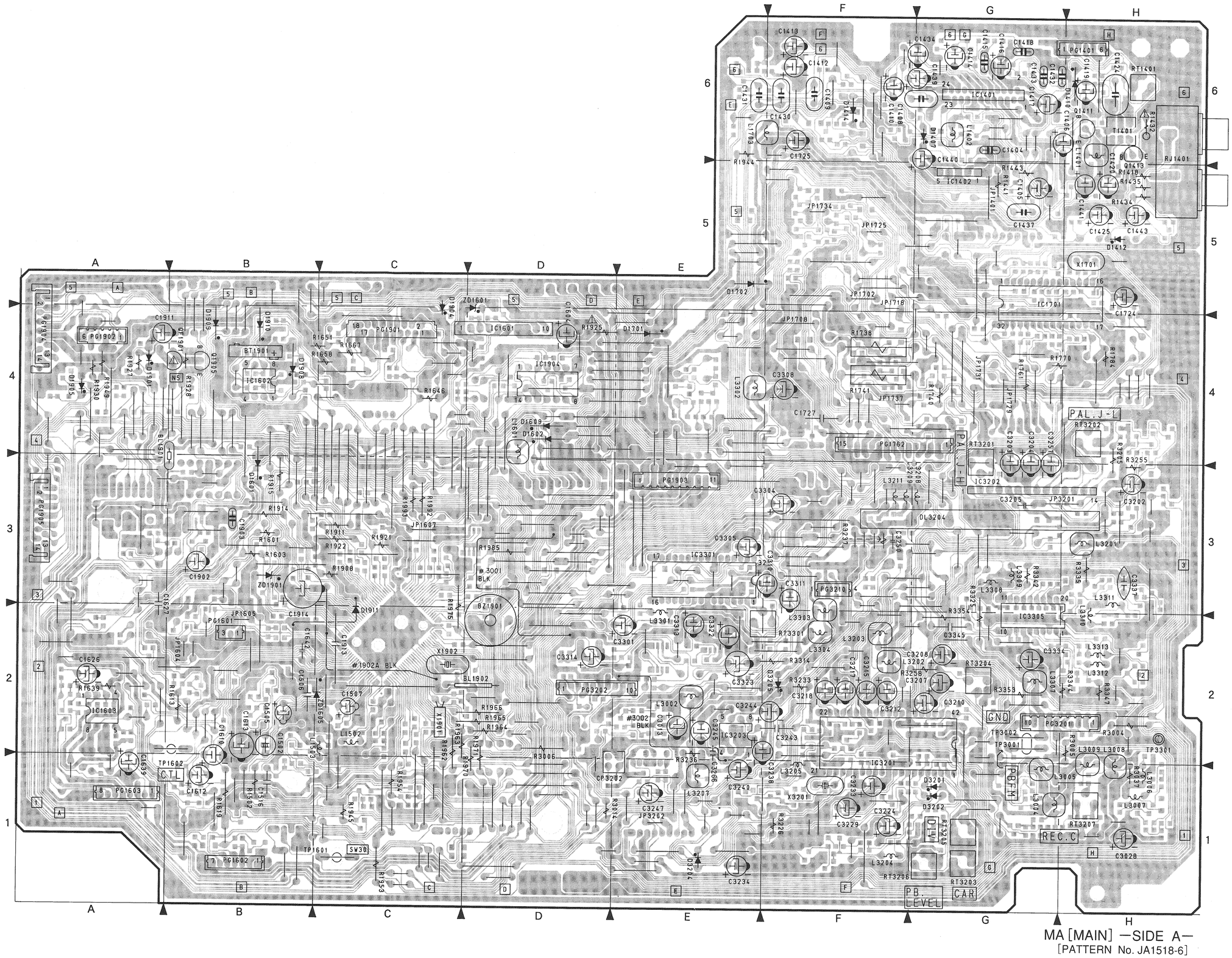
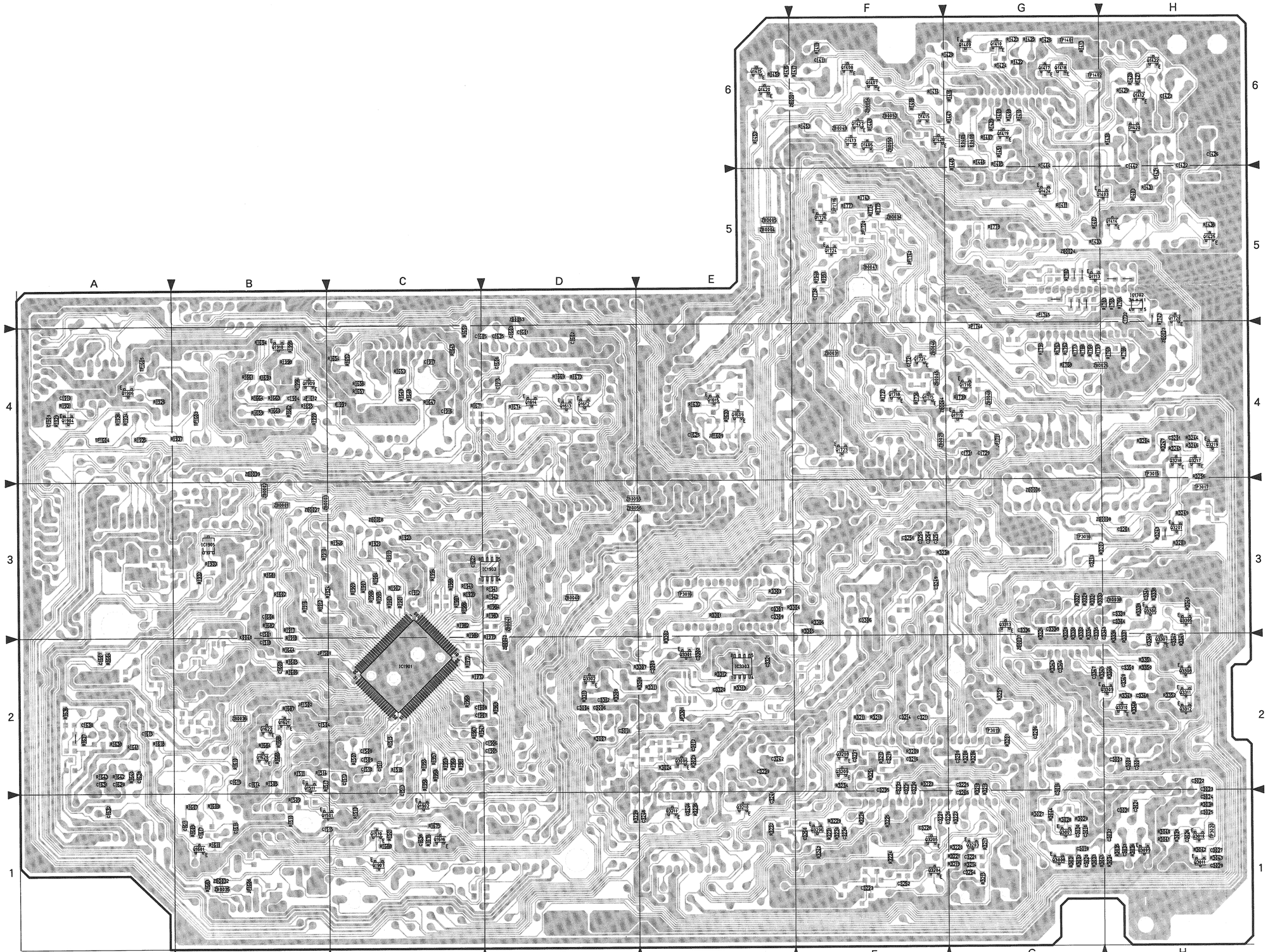
R3238	B-3F
R3239	B-1D
R3242	B-1F
R3243	B-3H
R3244	B-4H
R3245	B-4H
R3246	B-4H
R3247	B-4H
R3249	B-3H
R3251	B-2F
R3255	A-3H
R3256	B-4H
R3257	B-2G
R3258	A-2G
R3301	B-3E
R3302	B-2E
R3303	B-3E
R3304	B-3F
R3305	B-3F
R3306	B-3F
R3307	B-2E
R3308	B-2E
R3309	B-2D
R3310	B-2D
R3311	B-2E
R3312	B-2E
R3313	B-2E
R3314	A-2F
R3325	A-2G
R3326	B-3G
R3327	B-3G
R3328	B-3G
R3329	B-3G
R3330	B-3G
R3331	B-3G
R3332	B-3G
R3333	B-3G
R3334	B-3G
R3335	A-3H
R3336	B-2H
R3337	B-2H
R3338	B-3H
R3339	B-3H
R3340	B-3H
R3341	B-2H
R3342	A-3G
R3343	B-2G
R3344	A-2H
R3345	B-2G
R3346	B-2H
R3347	A-2H
R3348	B-2H
R3349	B-2H
R3350	B-2H
R3351	B-2H
R3352	B-2H
R3353	A-2G
R3354	A-2G
RJ	
RJ1401	A-6H
RT	
RT1401	A-6H
RT3201	A-4G
RT3202	A-4H
RT3203	A-1G
RT3204	A-2G
RT3205	A-1G
RT3206	A-1G
RT3207	A-1H
RT3301	A-2F
T	
T1401	A-6H
TP	
TP1401	B-6G
TP1402	B-6G
TP1601	A-1C
TP1602	A-2B
TP1603	B-4B
TP1604	B-4A
TP1605	B-4A
TP3001	A-2G
TP3002	A-2G
TP3015	B-4H
TP3016	B-3E
TP3017	B-3H
TP3018	B-3G
TP3019	B-2G
TP3020	B-1H
TP3301	A-2H
X	
X1701	A-5H
X1901	A-2C
X1902	A-2C
X3201	A-1F
ZD	
ZD1601	A-5D
ZD1605	A-2C
ZD1901	A-3B



MA [MAIN] —SIDE A—
[PATTERN No. JA1518-6]



MA [MAIN] –SIDE B–
[PATTERN No. JA1518-6]

IDENTIFICATION OF PARTS LOCATION

MA [MAIN]

Symbol No	Parts Location
#	
#1902A	A-2C
#3001	A-3D
#3002	A-2E
BL	
BL1901	A-3B
BL1902	A-2D
BT	
BT1901	A-4B
BZ	
BZ1901	A-2D
C	
C1404	A-6G
C1405	A-5G
C1406	A-6G
C1408	A-6G
C1409	A-6F
C1410	A-6F
C1411	B-6F
C1412	A-6F
C1413	A-6F
C1414	A-6G
C1415	A-6G
C1416	A-6G
C1417	A-6G
C1418	A-6G
C1419	A-6H
C1420	A-5H
C1421	B-5H
C1422	B-6H
C1423	B-6H
C1424	A-6H
C1425	A-5H
C1426	B-6H
C1430	A-6F
C1431	A-6E
C1432	A-6G
C1433	A-6G
C1434	A-6G
C1437	A-5G
C1439	A-6G
C1440	A-6G
C1441	A-5H
C1442	B-6H
C1443	A-5H
C1501	B-3B
C1502	A-2B
C1504	B-2B
C1505	A-2B
C1506	A-2B
C1507	A-2C
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C1512	B-2C
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C1516	A-1B
C1518	B-2B
C1601	B-4D
C1602	B-4D
C1603	B-4D
C1604	A-4D
C1605	B-4C
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C1628	B-2A
C1629	B-2A
C1630	B-2A
C1631	B-2A
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C1635	B-4D
C1638	B-1C
C1639	A-1A
C1642	A-2B
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C1729	B-4G
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C1907	B-2C
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C1910	B-4A
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C1917	B-4C
C3001	B-2H
C3002	B-2H
C3003	B-2H
C3004	B-2D
C3006	B-2D
C3011	B-2D
C3012	B-2E
C3013	A-2E
C3016	B-2G
C3018	B-1G
C3019	B-1G
C3020	B-1G
C3021	B-1H
C3022	B-2H
C3023	B-1H
C3024	B-1H
C3025	B-1H
C3026	B-1H
C3027	B-1H
C3028	A-1H
C3029	B-1H
C3030	B-1G
C3031	B-1H
C3032	B-1H
C3033	B-1H
C3201	B-4H
C3202	A-3H
C3203	A-4G
C3204	A-4G
C3205	A-3G
C3206	B-2G
C3207	A-2G
C3208	A-2G
C3209	B-2G
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C3213	B-3G
C3214	B-2F
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C3216	B-2F
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C3218	A-2F
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C3228	B-1F
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C3257	A-4G
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C3303	B-2E
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C3308	A-4F
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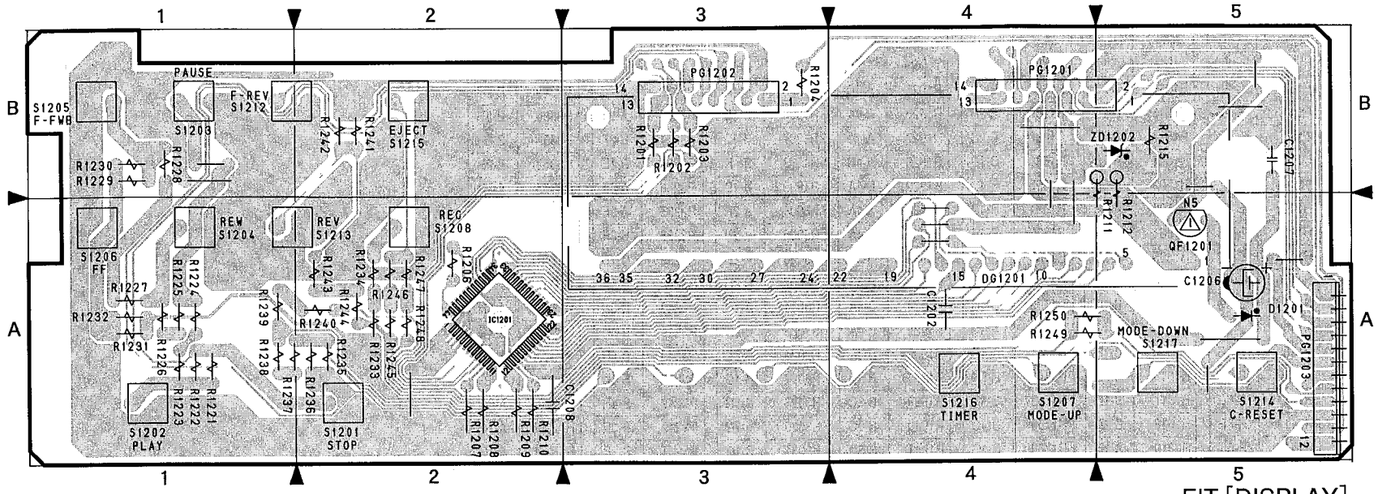
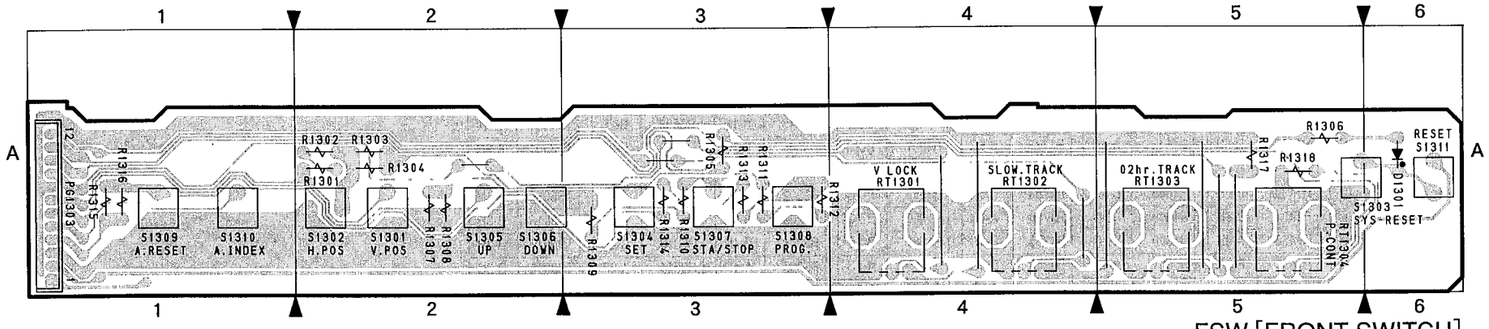
C3336	B-3G
C3337	A-3H
C3338	B-3G
C3339	B-3H
C3340	B-2H
C3341	B-3H
C3342	B-2H
C3343	B-3H
C3344	B-3H
C3345	A-2G
C3346	B-2G
C3347	B-2G
C3348	B-2H
C3349	B-2H
C3350	B-2H
CP	
CP3202	A-1E
D	
D1405	B-6F
D1407	A-6G
D1410	A-6H
D1412	A-5H
D1413	B-6F
D1414	A-6F
D1415	B-6F
D1420	B-6H
D1601	A-3B
D1602	A-4D
D1609	A-4D
D1701	A-4E
D1702	A-5E
D1901	A-4A
D1904	A-4C
D1905	A-4A
D1908	A-4B
D1909	A-4B
D1910	A-4B
D1911	A-2C
D3201	A-1G
D3202	A-1G
D3204	A-1E
D3205	A-2F
DL	
DL3204	A-3G
IC	
IC1401	A-6G
IC1402	A-5G
IC1601	A-4D
IC1602	A-4B
IC1603	A-2A
IC1701	A-5G
IC1702	B-5H
IC1901	B-2C
IC1903	B-3D
IC1904	A-4D
IC1905	B-3B
IC3201	A-2F
IC3202	A-3G
IC3203	A-2E
IC3301	A-3E
IC3303	B-2E
IC3305	A-2G
L	
L1401	A-6H
L1402	A-6G
L1502	A-2C
L1503	A-2C
L1601	A-4D
L1703	A-6E
L3002	A-2E
L3004	A-1G
L3005	A-1G
L3006	A-1H
L3007	A-1H
L3008	A-1H
L3009	A-2H
L3201	A-3H
L3202	A-2F
L3203	A-2F
L3204	A-1F
L3205	A-1F
L3207	A-1E
L3208	A-3G
L3209	A-3F
L3211	A-3F
L3301	A-2E
L3302	A-4E
L3303	A-3F
L3304	A-2F
L3307	A-2G
L3308	A-3G
L3309	A-3G
L3310	A-2H
L3311	A-3H
L3312	A-2H
L3313	A-2H
PG	
PG1401	A-6H
PG1601	A-2B
PG1602	A-1B
PG1603	A-1A
PG1762	A-4F
PG1901	A-4C
PG1902	A-4A
PG1903	A-3E
PG1904	A-4A
PG1905	A-3A
PG3201	A-2H
PG3202	A-2D
PG3210	A-3F
Q	
Q1403	B-5H
Q1407	B-6F
Q1408	B-6F
Q1409	B-6G
Q1410	B-6G
Q1411	A-6H
Q1412	B-6H
Q1413	A-6H
Q1414	B-5H
Q1415	B-6E
Q1417	B-6G
Q1418	B-6G
Q1419	B-6G
Q1420	B-6E
Q1422	B-6H
Q1424	B-5G
Q1425	B-5H
Q1427	B-6F
Q1428	B-6F
Q1501	B-1B
Q1510	B-1C
Q1511	B-2B
Q1601	B-1B
Q1609	B-4E
Q1612	B-4D
Q1613	B-4D
Q1614	B-4D
Q1615	B-4E
Q1616	B-1C
Q1620	B-2B
Q1621	B-2B
Q1622	B-2B
Q1713	B-5G
Q1715	B-4F
Q1716	B-4G
Q1718	B-4F
Q1719	B-4G
Q1720	B-5H
Q1721	B-4F
Q1723	B-4F
Q1724	B-5F
Q1726	B-5F
Q1902	B-1C
Q1904	B-4A
Q1905	A-4B
Q1906	B-4A
Q1907	B-1C
Q1909	B-4B
Q1910	B-4B
Q3005	B-2E
Q3007	B-1G
Q3008	B-1G
Q3009	B-1H
Q3010	B-1H
Q3011	B-1H
Q3201	B-3H
Q3203	B-1G
Q3204	B-1F
Q3205	B-1F
Q3206	B-1F
Q3208	B-2F
Q3209	B-2F
Q3210	B-1E
Q3211	B-1E
Q3217	B-4H
Q3218	B-4H
Q3219	B-4H
Q3301	B-2E
Q3302	B-2D
Q3305	B-3H
Q3306	B-3H
Q3307	B-2H
Q3308	B-2H
Q3309	B-2H
Q3310	B-2H
Q3311	B-2H
Q3312	B-2H
Q3313	B-3G
QF	
QF1901	A-4B
R	
R1402	B-5G
R1403	B-5H
R1405	B-6G
R1406	B-6F
R1407	B-6G
R1408	B-6G
R1409	B-6G
R1410	B-6G
R1411	B-5G
R1413	B-6G
R1414	B-6F
R1415	B-6E
R1416	B-6G
R1417	B-6F
R1418	A-5H
R1419	B-6F
R1420	B-6G
R1422	B-6G
R1423	B-6G
R1424	B-6G
R1425	B-6G
R1426	B-6G
R1427	B-6H
R1428	B-6H
R1429	B-6H
R1430	B-6H
R1431	B-5H
R1432	A-6H
R1433	B-5G
R1434	A-5H
R1435	A-5H
R1436	B-5H
R1439	B-6G
R1441	A-5G
R1443	A-5G
R1444	B-6G
R1445	B-6G
R1446	B-6G
R1447	B-6G
R1449	B-6F
R1450	B-6E
R1451	B-6G
R1452	B-6E
R1453	B-6F
R1501	B-1C
R1502	A-1B
R1505	B-2B
R1507	B-2C
R1509	B-1B
R1510	B-1B
R1511	B-2B
R1513	B-1C
R1514	B-2B
R1515	B-2C
R1516	B-2C
R1517	B-2B
R1601	A-3B
R1602	B-3B
R1603	A-3B
R1604	B-2A
R1605	B-2B
R1606	B-2B
R1607	B-1B
R1608	B-1B
R1609	B-1B
R1610	B-2B
R1611	B-1B
R1618	B-2A
R1619	A-1B
R1632	B-4E
R1633	B-4E
R1636	B-2A
R1637	B-2A
R1638	B-2A
R1639	A-2A
R1640	B-2A
R1641	B-2A
R1642	B-2A
R1643	B-2A
R1644	B-2B
R1645	B-4C
R1646	A-4C
R1647	B-4C
R1648	B-4C
R1649	B-4C
R1650	B-4C
R1651	A-4C
R1652	B-4C
R1653	B-4C
R1654	B-4C
R1655	B-4B
R1656	B-4C
R1657	B-4C
R1658	A-4C
R1659	B-4B
R1660	B-4B
R1661	B-4B
R1662	B-4B
R1663	B-4B
R1664	B-4B
R1667	A-4C
R1669	B-4D
R1671	B-4C
R1673	B-4D
R1674	B-4D
R1675	B-1C
R1676	B-1C
R1681	B-3B
R1682	B-3B
R1683	B-1B
R1684	B-2B
R1685	B-2B
R1686	B-2B
R1687	B-2B
R1688	B-1C
R1693	B-4B
R1694	B-4B
R1736	B-4F
R1737	B-4F
R1738	A-4F
R1739	B-4G
R1740	A-4G
R1741	A-4F
R1742	B-5H
R1743	B-5F
R1759	B-4G
R1760	B-4G
R1761	A-4G
R1762	B-4G
R1763	B-4G
R1765	B-5H
R1766	B-5H
R1768	B-4G
R1769	B-4H
R1770	A-4G
R1773	B-4G
R1774	B-5F
R1775	B-5F
R1777	B-5F
R1778	B-5G
R1782	B-5G
R1783	B-5H
R1784	A-4H
R1786	B-4H
R1788	B-4G
R1790	B-4G
R1901	B-3C
R1902	B-3C
R1903	B-3C
R1904	B-3C
R1905	B-3C
R1906	B-3C
R1907	B-3C
R1908	A-3C
R1909	B-3C
R1910	B-3B
R1911	A-3C
R1912	B-3B
R1914	A-3B
R1915	A-3B
R1916	B-3B
R1917	B-3B
R1918	B-2B
R1919	B-3C
R1920	B-3C
R1921	A-3C
R1922	A-3C
R1923	B-3C
R1924	B-3B
R1925	A-4D
R1926	B-4A
R1927	A-4A
R1928	A-4B
R1929	B-4A
R1930	A-4A
R1931	B-4A
R1932	B-3B
R1933	B-3B
R1934	B-4A
R1935	B-4A
R1936	B-4A
R1937	B-4B
R1939	B-3C
R1940	B-3C
R1941	B-3D
R1942	B-3D
R1944	A-6E
R1945	A-1C
R1946	B-3C
R1947	B-2C
R1948	B-5F
R1949	A-4A
R1951	B-5F
R1953	A-1C
R1954	A-1C
R1955	B-2C
R1956	B-2C
R1957	B-2C
R1958	B-2C
R1959	B-2C
R1960	B-2C
R1961	B-2C
R1962	A-2C
R1963	A-2C
R1964	A-2D
R1965	A-2D
R1966	A-2D
R1967	B-2C
R1968	B-2C
R1969	B-2D
R1970	A-1D
R1971	A-1D
R1972	B-2C
R1973	B-2C
R1975	A-2C
R1979	B-3D
R1980	B-3C
R1982	B-3C
R1983	B-3D
R1984	B-3D
R1985	A-3D
R1986	B-3C
R1987	B-3C
R1988	B-3C
R1992	A-3C
R1993	A-3C
R1994	B-3C
R1995	B-4B
R1996	B-4B
R1997	B-4C
R1998	B-4B
R1999	B-4B
R3004	A-2H
R3005	A-2H
R3006	A-2D
R3007	B-2D
R3014	A-1D
R3023	B-2E
R3024	B-2E
R3027	B-1G
R3028	B-1G
R3029	B-1G
R3031	B-1G
R3032	B-1G
R3033	B-1G
R3034	B-1H
R3035	B-1H
R3036	B-1H
R3037	A-1H
R3038	B-1H
R3039	B-1H
R3040	B-1H
R3041	B-1H
R3042	B-1H
R3043	B-1H
R3044	B-1G
R3045	B-1G
R3202	B-3G
R3203	B-3H
R3204	B-4H
R3205	A-4H
R3206	B-2G
R3207	B-2G
R3208	B-2G
R3209	B-2F
R3210	B-2F
R3211	B-2F
R3212	B-2F
R3214	B-1G
R3215	B-1G
R3216	B-2G
R3217	B-1G
R3218	B-2G
R3219	B-1G
R3220	B-1G
R3221	B-1G
R3222	B-1G
R3223	B-2F
R3224	B-1F
R3225	B-1F
R3226	A-1F
R3228	B-1F
R3229	B-1F
R3230	B-1F
R3231	B-1F
R3232	B-1E
R3233	A-2F
R3234	B-2F
R3235	B-1E
R3236	A-2E
R3237	A-3F
R3238	B-3F
R3239	B-1D
R3242	B-1F
R3243	B-3H
R3244	B-4H
R3245	B-4H
R3246	B-4H
R3247	B-4H
R3249	B-3H
R3251	B-2F
R3255	A-3H
R3256	B-4H
R3257	B-2G
R3258	A-2G
R3301	B-3E
R3302	B-2E
R3303	B-3E
R3304	B-3F
R3305	B-3F
R3306	B-3F
R3307	B-2E
R3308	B-2E
R3309	B-2D
R3310	B-2D
R3311	B-2E
R3312	B-2E
R3313	B-2E
R3314	A-2F
R3325	A-2G
R3326	B-3G
R3327	B-3G
R3328	B-3G
R3329	B-3G
R3330	B-3G
R3331	B-3G
R3332	B-3G
R3333	B-3G
R3334	B-3G
R3335	A-3H
R3336	B-2H
R3337	B-2H
R3338	B-3H
R3339	B-3H
R3340	B-3H
R3341	B-2H
R3342	A-3G
R3343	B-2G
R3344	A-2H
R3345	B-2G
R3346	B-2H
R3347	A-2H
R3348	B-2H
R3349	B-2H
R3350	B-2H
R3351	B-2H
R3352	B-2H
R3353	A-2G
R3354	A-2G
RJ	
RJ1401	A-6H
RT	
RT1401	A-6H
RT3201	A-4G
RT3202	A-4H
RT3203	A-1G
RT3204	A-2G
RT3205	A-1G
RT3206	A-1G
RT3207	A-1H
RT3301	A-2F
T	
T1401	A-6H
TP	
TP1401	B-6G
TP1402	B-6G
TP1601	A-1C
TP1602	A-2B
TP1603	B-4B
TP1604	B-4A
TP1605	B-4A
TP3001	A-2G
TP3002	A-2G
TP3015	B-4H
TP3016	B-3E
TP3017	B-3H
TP3018	B-3G
TP3019	B-2G
TP3020	B-1H
TP3301	A-2H
X	
X1701	A-5H
X1901	A-2C
X1902	A-2C
X3201	A-1F
ZD	
ZD1601	A-5D
ZD1605	A-2C
ZD1901	A-3B

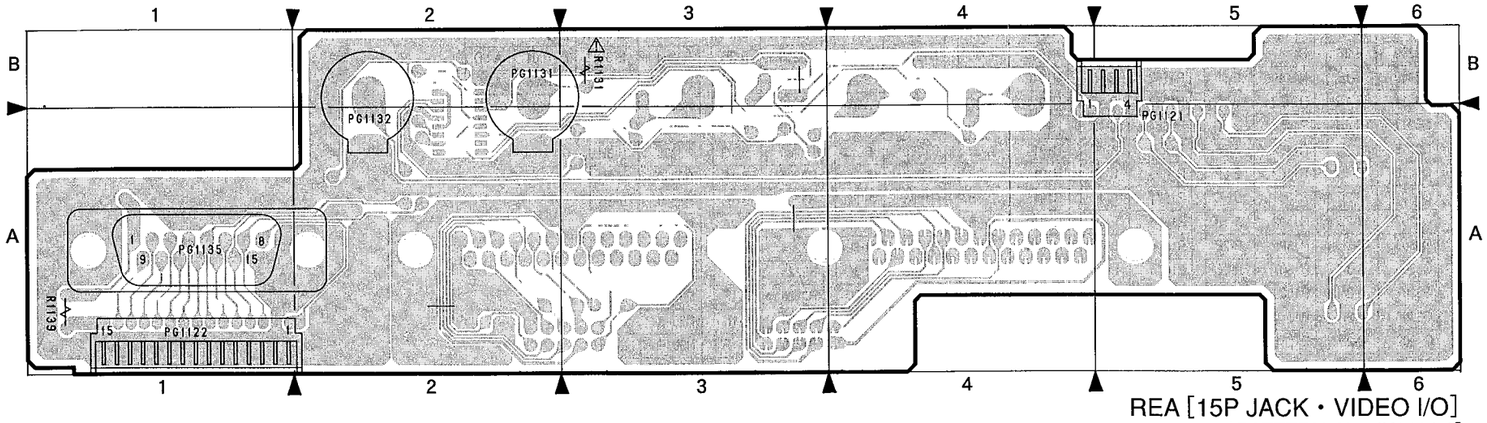
FIT, FSW, REA, MWB CIRCUIT BOARDS



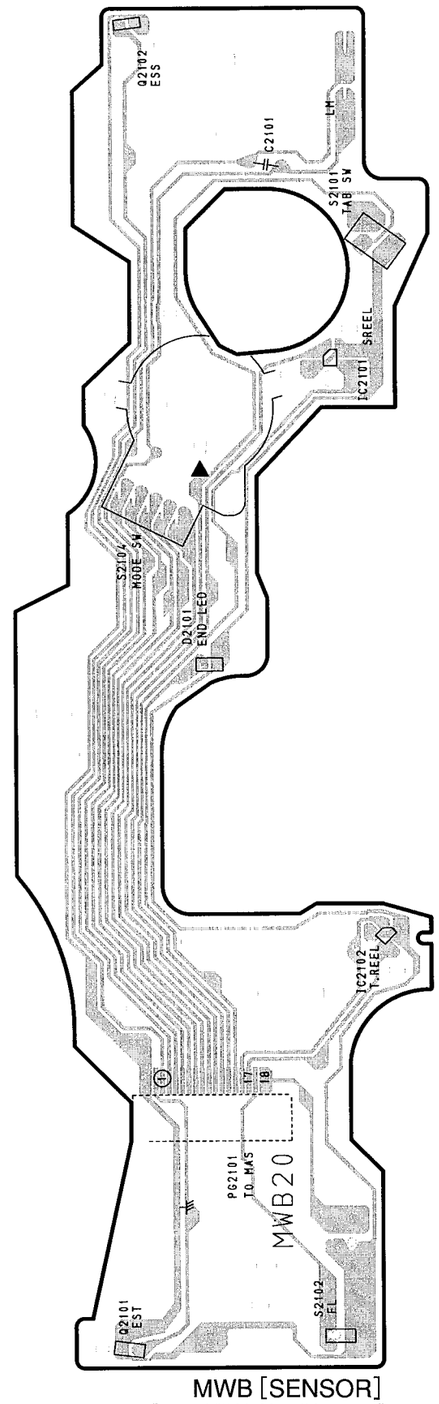
FIT [DISPLAY]
[PATTERN No. JK1414-1]



FSW [FRONT SWITCH]
[PATTERN No. JK1414-1]



REA [15P JACK • VIDEO I/O]
[PATTERN No. JK1414-1]



MWB [SENSOR]
[PATTERN No. JK1036-5]

IDENTIFICATION OF PARTS LOCATION

FIT

Symbol No.	Parts Location
C	
C1202	4A
C1206	5A
C1207	5B
C1208	2A
D	
D1201	5A
DG	
DG1201	4A
IC	
IC1201	2A
PG	
PG1201	4B
PG1202	3B
PG1203	5A
QF	
QF1201	5A
R	
R1201	3B
R1202	3B
R1203	3B
R1204	3B
R1206	2A
R1207	2A
R1208	2A
R1209	2A
R1210	2A
R1211	5A
R1212	5A
R1215	5B
R1221	1A
R1222	1A
R1223	1A
R1224	1A
R1225	1A
R1226	1A
R1227	1A
R1228	1B
R1229	1B
R1230	1B
R1231	1A
R1232	1A
R1233	2A
R1234	2A
R1235	2A
R1236	2A
R1237	1A
R1238	1A
R1239	1A
R1240	2A
R1241	2B
R1242	2B
R1243	2A
R1244	2A
R1245	2A
R1246	2A
R1247	2A
R1248	2A

Symbol No.	Parts Location
R1249	4A
R1250	4A
S	
S1201	2A
S1202	1A
S1203	1B
S1204	1A
S1205	1B
S1206	1A
S1207	4A
S1208	2A
S1212	1B
S1213	1A
S1214	5A
S1215	2B
S1216	4A
S1217	5A
ZD	
ZD1202	5B

FSW

Symbol No.	Parts Location
D	
D1301	6A
PG	
PG1303	1A
R	
R1301	2A
R1302	2A
R1303	2A
R1304	2A
R1305	3A
R1306	5A
R1307	2A
R1308	2A
R1309	3A
R1310	3A
R1311	3A
R1312	3A
R1313	3A
R1314	3A
R1315	1A
R1316	1A
R1317	5A
R1318	5A
RT	
RT1301	4A
RT1302	4A
RT1303	5A
RT1304	5A
S	
S1301	2A
S1302	2A
S1303	5A
S1304	3A
S1305	2A
S1306	2A
S1307	3A
S1308	3A
S1309	1A
S1310	1A
S1311	6A

REA

Symbol No.	Parts Location
PG	
PG1121	5B
PG1122	1A
PG1131	2B
PG1132	2B
PG1135	1A
R	
R1131	3B
R1139	1A

IDENTIFICATION OF PARTS LOCATION

PRE

Symbol No.	Parts Location
C	
C0001	B-4A
C0002	B-4B
C0003	B-4B
C0004	B-5B
C0005	B-4A
C0006	B-5A
C0007	B-5B
C0008	B-5B
C0009	B-5A
C0010	B-5B
C0011	B-4A
C0012	B-4A
C0013	B-4A
C0014	A-4A
C0015	B-4A
C0016	B-4A
C0017	A-4A
C0018	B-4A
C0019	B-5A
C0020	B-5A
C0021	A-5A
C0022	B-5A
C0023	A-5A
D	
D0001	B-2A
D0002	B-2B
D0004	B-3B
D0005	A-4A
IC	
IC0001	A-5A
L	
L0001	A-4B
L0002	A-5B
L0003	A-4A
L0004	A-5A
L0005	A-5A
L0006	A-5A
L0007	A-4A
PG	
PG0001	A-5B
PG0002	A-1A
PG0003	A-2B
Q	
Q0001	B-2B
Q0002	B-5A
Q0003	B-4A
Q0004	B-4A
Q0005	B-3A
Q0006	B-2B
R	
R0001	B-4A
R0002	B-4B
R0003	B-4A
R0004	B-5A
R0005	B-5A
R0006	B-5A
R0007	B-5A

Symbol No.	Parts Location
R0008	B-5B
R0009	B-4A
R0010	B-4A
R0011	B-5A
R0012	B-5A
R0013	B-4A
R0014	B-4A
R0015	B-4A
R0016	B-4A
R0017	B-4A
R0018	B-2B
R0019	B-2B
R0022	B-4A
R0023	B-3A
R0024	B-2B

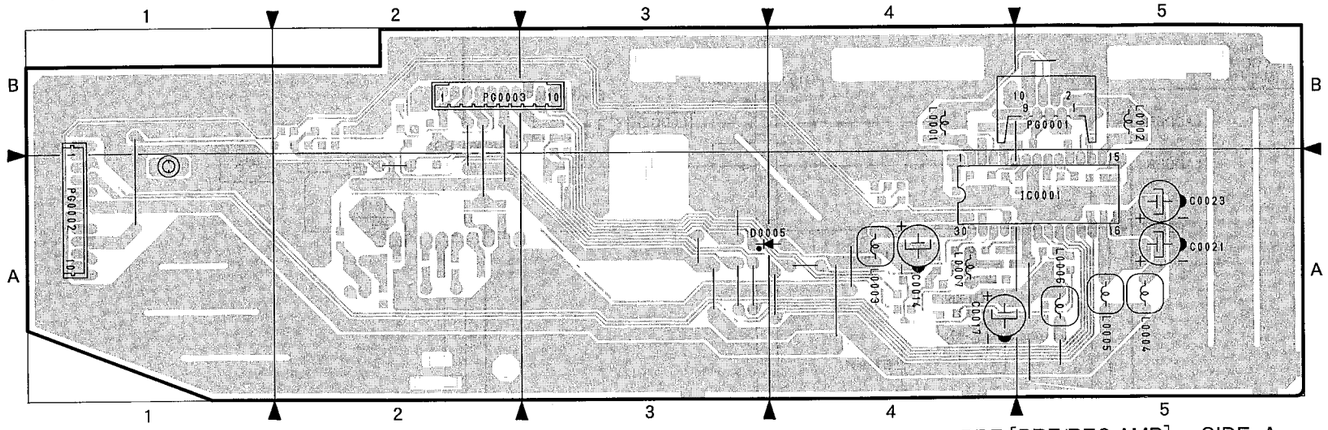
PTR

Symbol No.	Parts Location
C	
C852	6B
C853	7B
C855	5A
C856	6A
C857	6A
C858	6B
C859	6A
C867	6B
C891	1A
D	
D851	5B
D852	5A
D856	6B
D857	6A
FU	
FU851	4B
FU852	4B
FU853	2B
L	
L851	2A
PG	
PG2853	7B
Q	
Q851	6B
R	
R851	6B
R871	7A
T	
T852	4A
ZD	
ZD851	6B

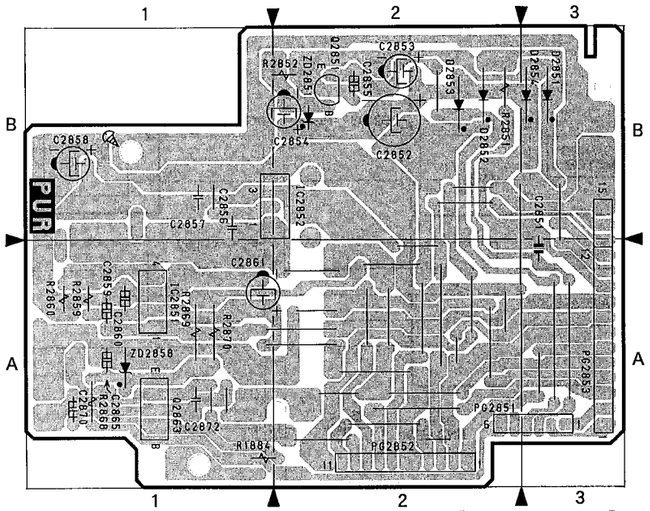
PUR

Symbol No.	Parts Location
C	
C2851	3A
C2852	2B
C2853	2B
C2854	2B
C2855	2B
C2856	1B
C2857	1B
C2858	1B
C2859	1A
C2860	1A
C2861	1A
C2865	1A
C2870	1A
C2872	1A
D	
D2851	3B
D2852	2B
D2853	2B
D2854	3B
IC	
IC2851	1A
IC2852	2B
PG	
PG2851	3A
PG2852	2A
PG2853	3A
Q	
Q2851	2B
Q2863	1A
R	
R1884	1A
R2851	2B
R2852	2B
R2859	1A
R2860	1A
R2868	1A
R2869	1A
R2870	1A
ZD	
ZD2851	2B
ZD2858	1A

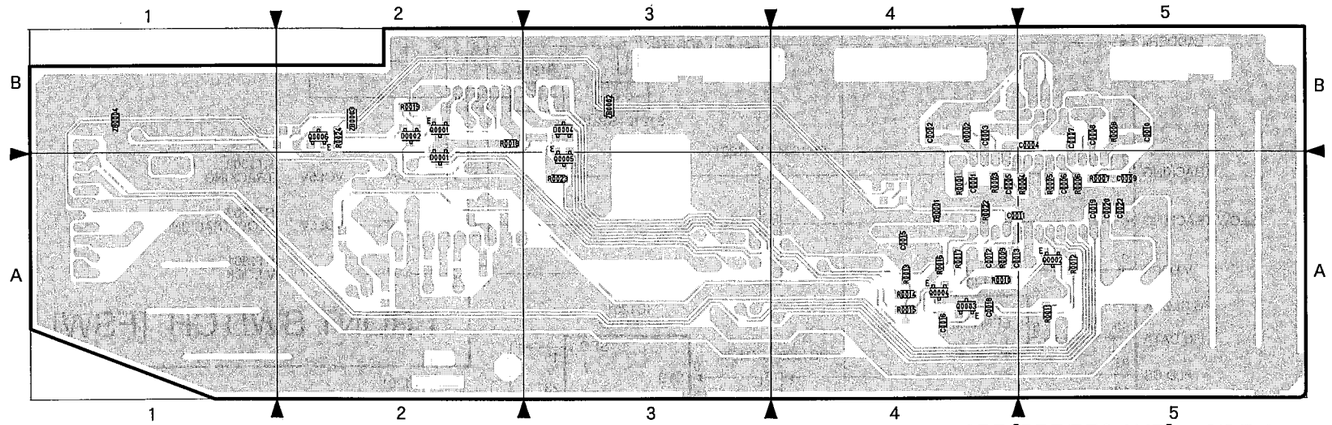
PRE, PTR, PUR, ECA CIRCUIT BOARD



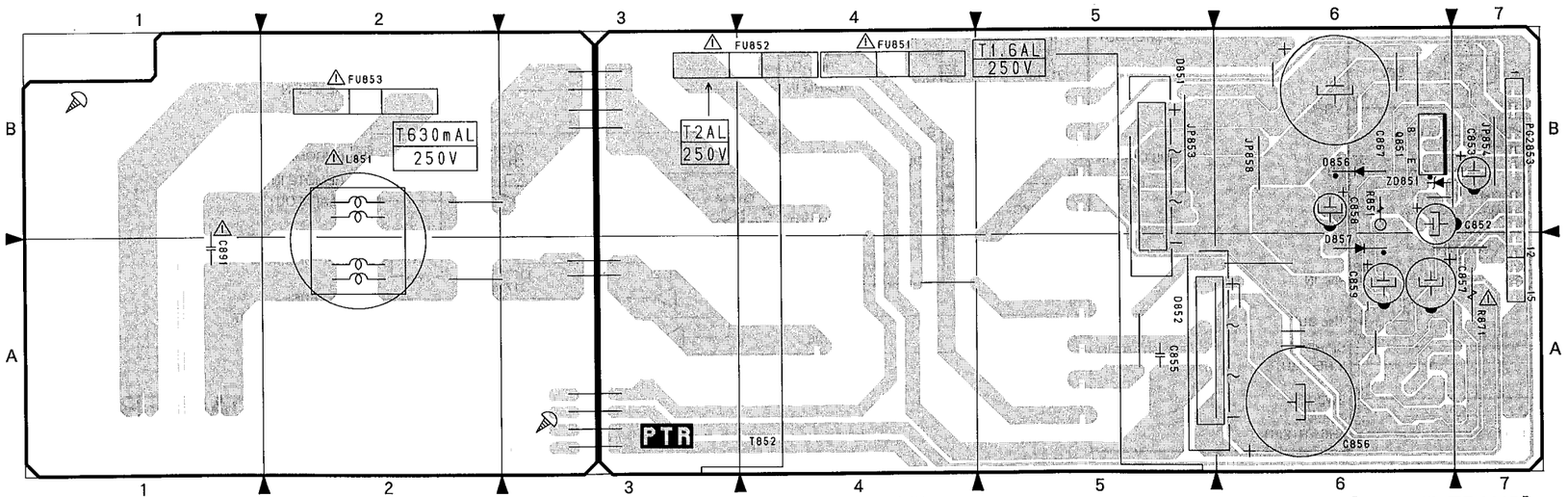
PRE [PRE/REC AMP] —SIDE A—



PUR [REGULATOR]
[PATTERN No JK1414-1]

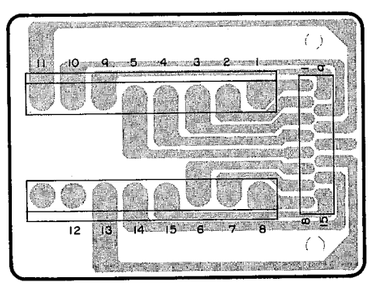


PRE [PRE/REC AMP] —SIDE B—
[PATTERN No JA1240-3]



NOTE ADD 1000 TO ALL CIRCUIT NUMBERS IN
POWER TRANS SECTION(EXCEPT T&FU)
(FOR EXAMPLE READ R851 IS R1851 IN PARTS LIST)

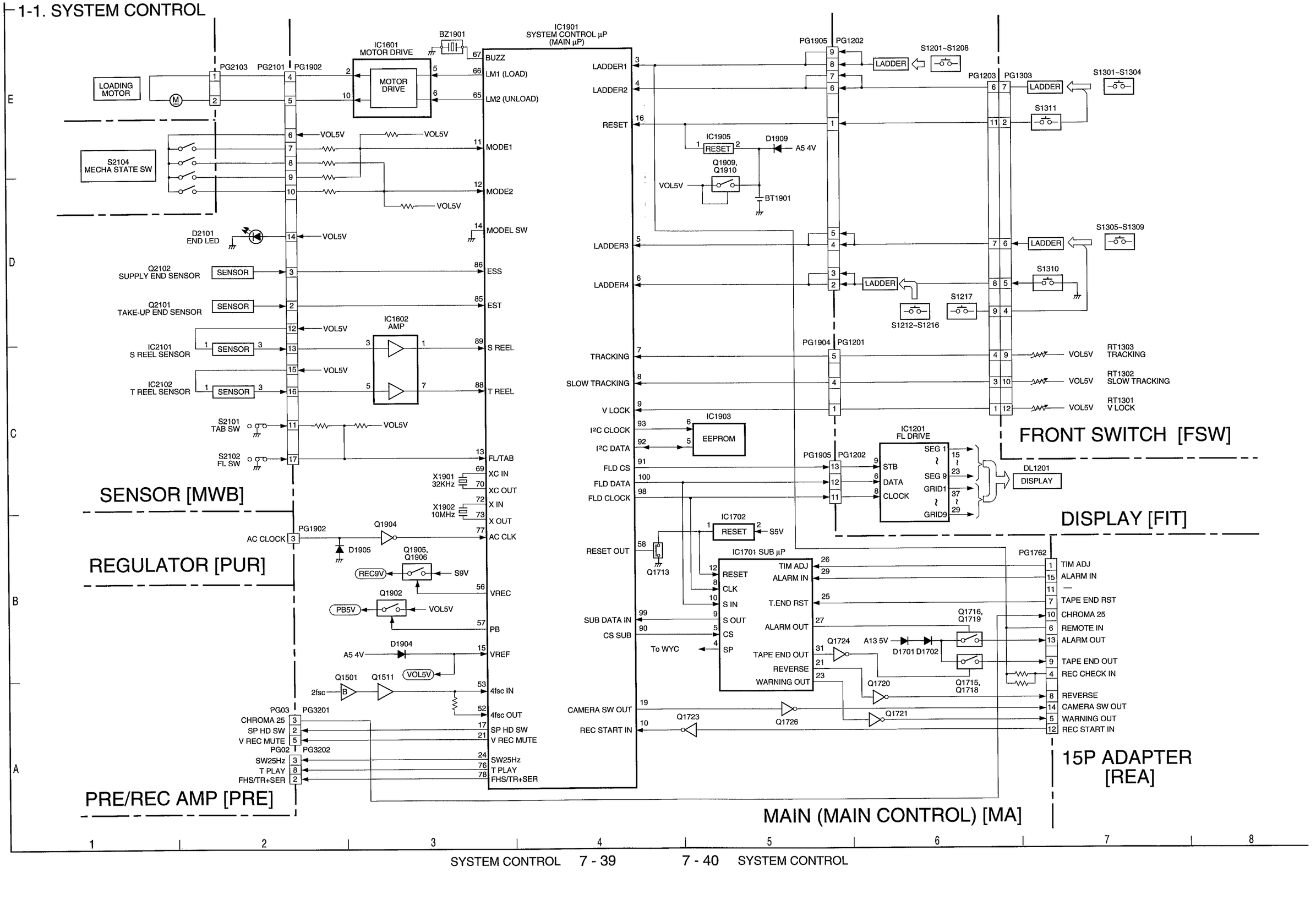
PTR [POWER TRANS]
[PATTERN No JK1414-1]

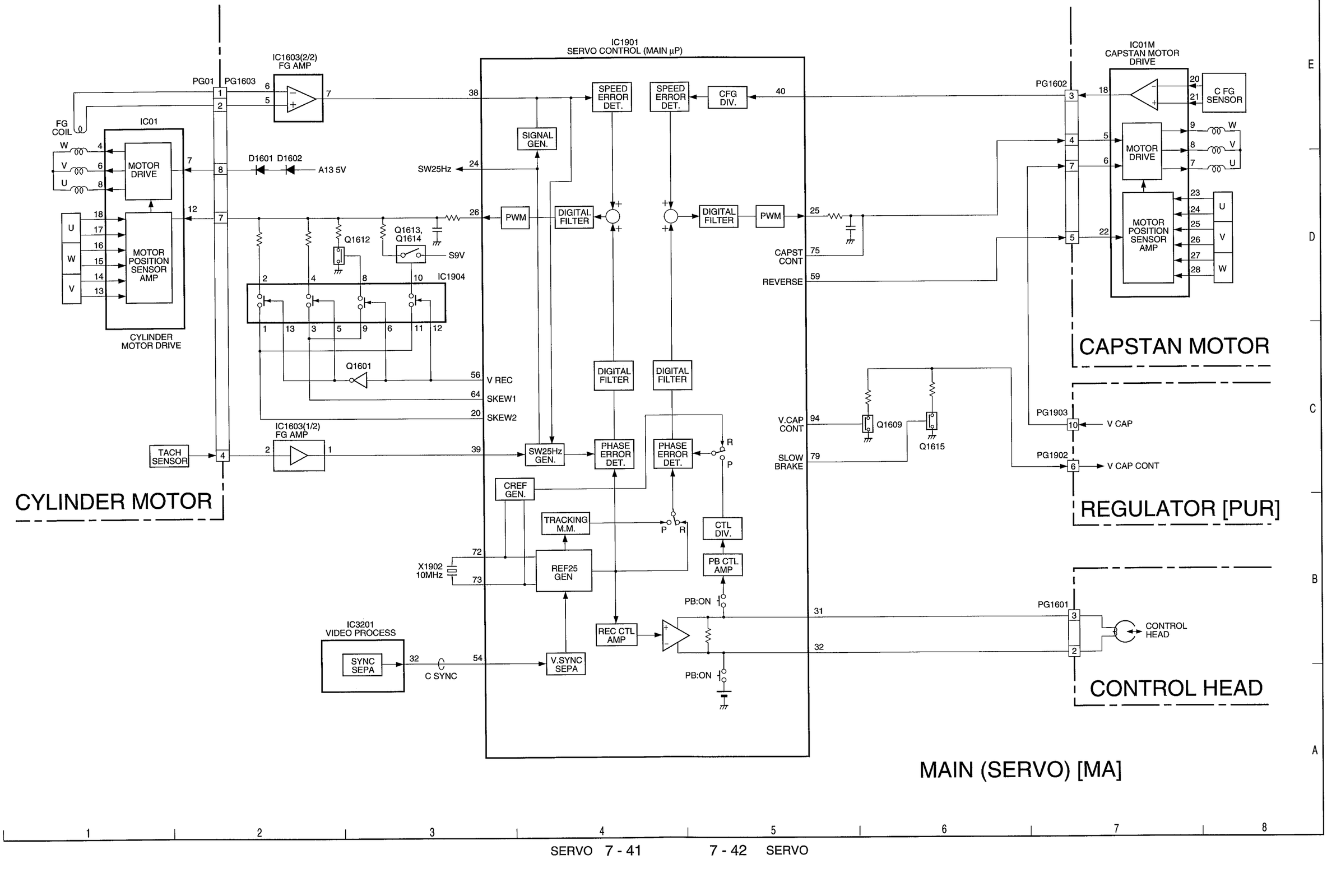


ECA [15PADAPTER]
[PATTERN No. 150583-4]

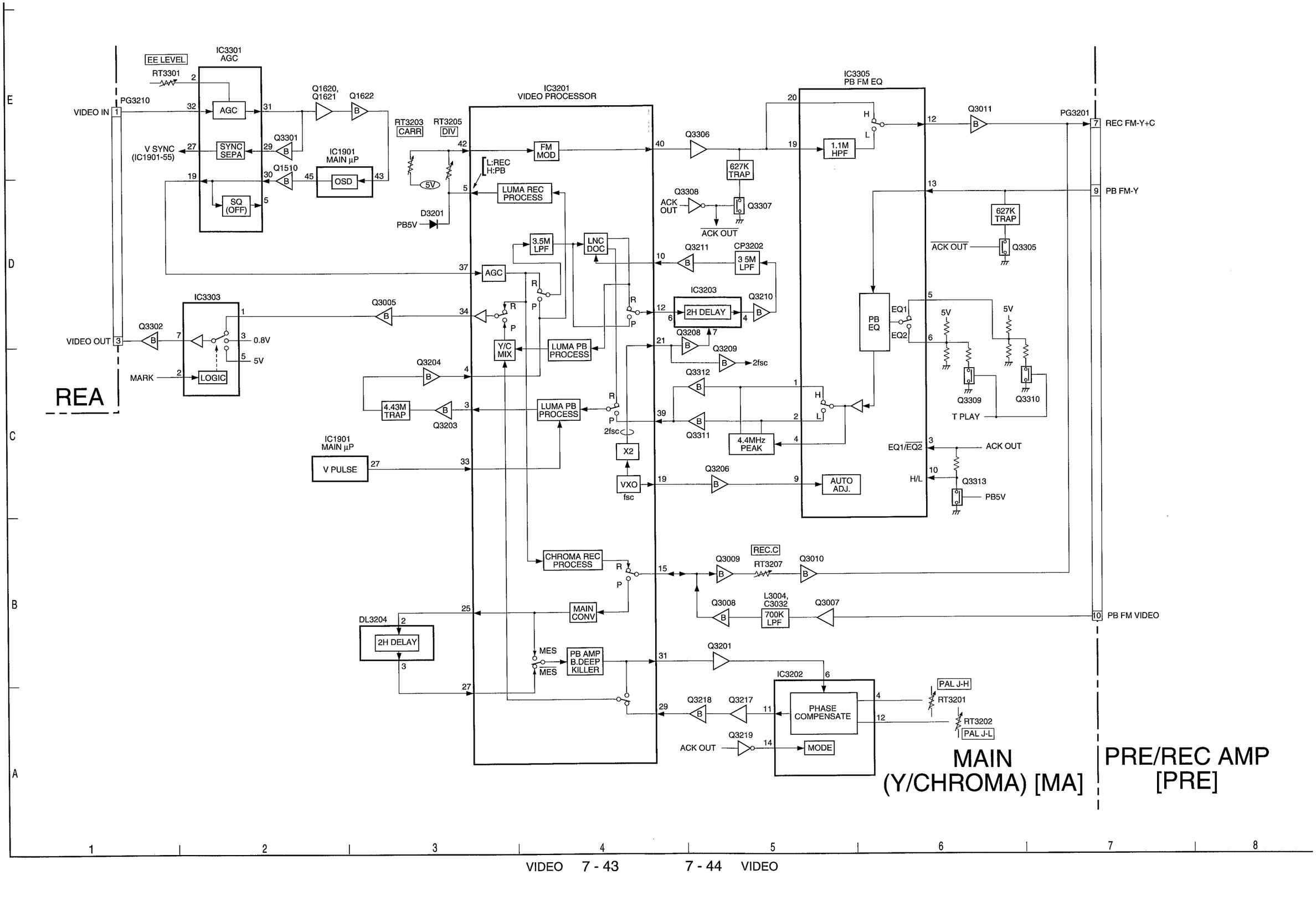
2. BLOCK DIAGRAM

1-1. SYSTEM CONTROL

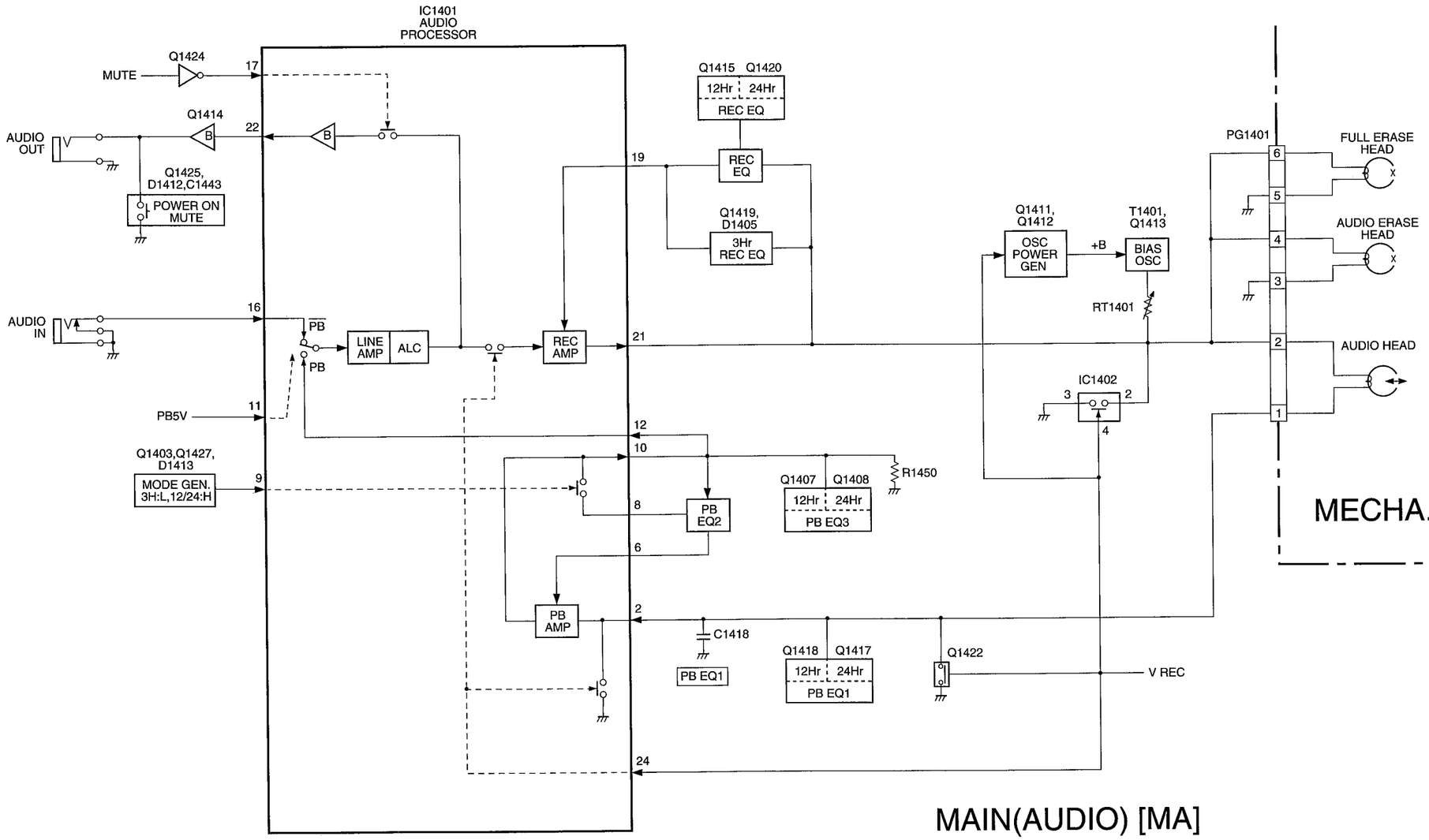



IC1901
SERVO CONTROL (MAIN μP)
IC1603(2/2)
FG AMP
PG01
PG1603
FG COIL
IC01
MOTOR DRIVE
MOTOR POSITION SENSOR AMP
CYLINDER MOTOR DRIVE
D1601 D1602
A13 5V
SW25Hz
SIGNAL GEN.
SPEED ERROR DET.
CFG DIV.
DIGITAL FILTER
PWM
Q1612
Q1613, Q1614
S9V
IC1904
Q1601
V REC
SKEW1
SKEW2
CAPST CONT
REVERSE
IC01M
CAPSTAN MOTOR DRIVE
PG1602
C FG SENSOR
CAPSTAN MOTOR
IC1603(1/2)
FG AMP
TACH SENSOR
SW25Hz GEN.
PHASE ERROR DET.
CREF GEN.
TRACKING M.M.
X1902
10MHz
REF25 GEN
CTL DIV.
PB CTL AMP
PB:ON
REC CTL AMP
IC3201
VIDEO PROCESS
SYNC SEPA
C SYNC
V.SYNC SEPA
V.CAP CONT
SLOW BRAKE
Q1609
Q1615
PG1903
V CAP
PG1902
V CAP CONT
REGULATOR [PUR]
PG1601
CONTROL HEAD
CYLINDER MOTOR
CONTROL HEAD
MAIN (SERVO) [MA]

1-3. VIDEO


EE LEVEL
IC3301 AGC
RT3301
PG3210
VIDEO IN
AGC
SYNC SEPA
V SYNC (IC1901-55)
SQ (OFF)
Q1620, Q1621
Q1622
Q3301
Q1510
IC1901 MAIN µP
OSD
RT3203 CARR
RT3205 DIV
5V
D3201
PB5V
IC3201 VIDEO PROCESSOR
FM MOD
L:REC H:PB
LUMA REC PROCESS
3.5M LPF
LNC DOC
AGC
IC3303
Q3005
Q3302
VIDEO OUT
0.8V
5V
MARK
LOGIC
REA
Y/C MIX
LUMA PB PROCESS
Q3204
4.43M TRAP
Q3203
2fsc
X2
VXO
fsc
IC1901 MAIN µP
V PULSE
Q3306
627K TRAP
Q3308
ACK OUT
Q3307
IC3305 PB FM EQ
1.1M HPF
Q3011
PG3201
REC FM-Y+C
PB FM-Y
627K TRAP
Q3305
Q3211
CP3202
3.5M LPF
IC3203
2H DELAY
Q3210
Q3208
Q3209
2fsc
Q3312
Q3311
4.4MHz PEAK
PB EQ
EQ1
EQ2
5V
Q3309
Q3310
T PLAY
EQ1/EQ2
ACK OUT
H/L
Q3313
PB5V
Q3206
AUTO ADJ.
CHROMA REC PROCESS
REC.C
Q3009
RT3207
Q3010
Q3008
L3004, C3032
700K LPF
Q3007
PB FM VIDEO
DL3204
2H DELAY
MAIN CONV
MES
PB AMP B.DEEP KILLER
Q3201
IC3202
PHASE COMPENSATE
Q3218
Q3217
Q3219
MODE
PAL J-H
RT3201
RT3202
PAL J-L
MAIN (Y/CHROMA) [MA]
PRE/REC AMP [PRE]

1-4. AUDIO



MAIN(AUDIO) [MA]

MICROPROCESSOR PIN FUNCTION TABLES

1-1. SUB µP (IC1701)

Pin No.	I/O	Active Level	Abbreviation	Function
1	O	–	–	Unused
2	O	–	–	Unused
3	O	–	–	Unused
4	O		–	Unused
5	I	PULSE	CE	Chip enable signal for microprocessor communications
6	I	–	–	Unused
7	I	–	–	Unused
8	I	PULSE	CLK	Common communication lines with SYS.CON microprocessor; data is communicated and synchronized with the CLOCK signal.
9	O	PULSE	S DATA OUT	
10	I	PULSE	S DATA IN	
11	I	–	ALARM IN	Unused
12	I	L	RESET	Reset with "L" input.
13	I	–	CNVSS	Ground.
14	O	–	XOUT	System clock generator input/output
15	I	–	XIN	
16	–	–	VSS	Ground.
17	–	–	VDD	Power supply.
18	–	–	VREF	Reference voltage input.
19	–	–	AVSS	Ground.
20	I	–	–	Unused.
21	O	H	REVERSE	Reverse mode control output. Drives the capstan motor in reverse.
22	O	–	–	Unused.
23	O	H	WARNING OUT	Outputs "L" when an abnormality is detected.
24	I/O	–	–	Unused
25	I/O	L	TAPE END RST	TAPE END OUT stops with "L" input.
26	I/O	PULSE	TIME ADJ	Time adjustment input.
27	O	H	ALARM OUT	Outputs "H" during alarm recording.
28	I	–	–	Unused.
29	I	L	ALARM IN	The "L" input starts alarm recording.
30	O	–	–	Unused.
31	O	H	TAPE END OUT	Outputs "H" when tape end is detected.
32	O	–	–	Unused.

1-2. MAIN µP (IC1901) Pin Function Table

Pin No.	I/O	Active Level	Abbreviation	Function
1	O	–	CS TDS/232C	Unused.
2	–	–	GND	
3	I	A/D	LADDER 1	Key matrix input
4	I	A/D	LADDER 2	Key matrix input
5	I	A/D	LADDER 3	Key matrix input
6	I	A/D	LADDER 4	Key matrix input
7	I	A/D	TRACKING	Tracking voltage input during playback
8	I	A/D	SLOW TRACKING	Tracking voltage input during frame advance play
9	I	A/D	V. LOCK	Vertical jitter adjustment voltage input during still play
10	I	L	REC START IN	Recording is started with "L" input.
11	I	A/D	MODE 1	Mechanism state position detection inputs to control the loading motor.
12	I	A/D	MODE 2	<table><tr><th>Position</th><th>1 FL</th><th>2 UL</th><th>3 S-REW</th><th>4 STP2</th><th>5 FF/REW</th><th>6 R/P</th><th>7 FS</th><th>8 RFS</th><th>9 REV</th><th>0 TRANS</th></tr><tr><td>MODE 1</td><td>1.80</td><td>1.80</td><td>2.50</td><td>0.00</td><td>0.00</td><td>1.80</td><td>1.80</td><td>0.00</td><td>2.50</td><td>0.00 V</td></tr><tr><td>MODE 2</td><td>0.00</td><td>2.50</td><td>0.00</td><td>3.05</td><td>1.80</td><td>1.80</td><td>3.05</td><td>2.50</td><td>2.50</td><td>0.00 V</td></tr></table>
13	I	A/D	FL/TAB	Input to detect cassette position and erase prevention tab. "H": With tab, "L": Cassette being loaded/ejected, "M": Without tab
14	I	A/D	MODEL SW	GND
15	I	–	VREF	A/D converter reference voltage (5V)
16	I	L	RESET	Initialized with "L" input.
17	O	PULSE	SP. HD SW	DA4-head switching signal
18	O	H	CTL. CONT	Unused
19	O	PULSE	CAMERA SW OUT	Outputs timing pulses that switch recording and camera when an auto switcher is connected.
20	I/O	PULSE	DM ADJ/SKEW 2	Skew correction signal during time-lapse recording. Horizontal jitter correction signal during frame advance play
21	O	H	V REC. MUTE	Mutes video signal recording. "H": Mutes video signal, "L": Releases muting. Stops signal supply to video heads.
22	I	–	VCC	Connected to back-up power supply.
23	O	–	2H. DLY	Unused
24	O	PULSE	SW25	Head switching SW25 pulse
25	O	PWM	CAM PWM	PWM output for capstan motor control
26	O	PWM	DRUM PWM	PWM output for cylinder motor control
27	O	H/M/L	V. PULSE	Artificial V sync pulse output ("H": SYNC, "M": Pedestal, "L": VIDEO through)
28	O	–	C. ROTARY	Unused
29	O	–	H. AMP SW	Unused
30	I	–	COMP	Unused
31	I/O	PULSE	CTL H (+)	CTL pulse input/output
32	I/O	PULSE	CTL H (–)	CTL pulse input/output
33		–	Vss (SRV)	GND
34	I	PULSE	CTL AMP I1	For external connection of CTL amp
35	I	PULSE	CTL AMP I2	For external connection of CTL amp
36	I	PULSE	CTL AMP I3	For external connection of CTL amp
37	O	PULSE	CTL AMP (0)	CTL amp output
38	I	PULSE	DRUM FG	Cylinder FG pulse input for cylinder speed control
39	I	PULSE	DRUM PG	Cylinder TAC pulse input for cylinder phase control
40	I	PULSE	CFG	Capstan FG pulse input for capstan motor control
41	I	–	Vcc (SRV)	5V input
42	I	–	Vcc (OSD)	5V input
43	I		CV IN	Video signal input
44	I	–	Vref	Reference bias, clamp bias monitor terminal
45	O	–	CV OUT	Video signal output. OSD is superimposed.
46	I	–	CHAR Bias	Character luminance level external adjustment (unused)
47	I	–	AFC LPF	For the connection of LPF of AFC
48	I	–	AFC OSC	Oscillator for AFC
49	I	–	GND (OSC)	Ground
50	I	–	DOSC IN	OSD dot clock oscillator input

Pin No.	I/O	Active Level	Abbreviation	Function
51	O	–	DOSC OUT	OSD dot clock oscillator output
52	O	–	4fsc OUT	2fsc oscillator output
53	I	–	4fsc IN	2fsc oscillator input
54	I	PULSE	C. SYNC	Composite sync signal input for video output
55	I	H	V. SYNC	Detects whether input signal is present or not. With input: "H", Without input: "L"
56	O	H	REC	Video signal recording control. REC: "H"
57	O	L	PB	Sets video system to playback mode. PB: "L"
58	O	H	RESET OUT	Microprocessor reset output (When reset: "H", Other: "L")
59	O	H	REVERSE	Capstan motor reverse control output (Reverse: "H", Other: "L")
60	O	H	48Hr	Audio muting signal during frame advance
61	O	H	24/30Hr	Switches audio equalizer between 24 and 30Hr modes.
62	O	H	12/18Hr	Switches audio equalizer between 12 and 18Hr modes.
63	I/O	H/M/L	CLR/BW/AUTO	Color/monochrome/AUTO switching. Monochrome: "H", AUTO: "M", Color: "L"
64	I/O	H	DM ADJ/SKEW 1	Skew correction signal during time-lapse recording. Horizontal jitter correction signal during frame advance play
65	O	H	LM 2 (UNLOAD)	Loading motor control output (unloading)
66	O	H	LM 1 (LOAD)	Loading motor control output (loading)
67	O	PULSE	BUZZ	Buzzer output.
68		–	TEST	Ground
69	I	–	XCIN	These pins generate a 32.768 kHz clock signal for the clock.
70	O	–	XCOUT	
71	I	–	GND	Ground
72	I	–	XIN	These pins generate a 10 MHz system clock signal in modes other than backup.
73	O	–	XOUT	
74	O	L	L. MUTE	Audio output muting control. Mute ON: "L"
75	O	H/L	CAPS CONT	Voltage control: "H", Servo control: "OPEN", Stop: "L"
76	O	H	T. PLAY	Special-effect playback output signal. During special-effect playback: "H"
77	I	PULSE	AC CLK	Reference signal for clock (NTSC), power failure detection signal (NTSC, PAL)
78	I/O	H/M/L	FHS/TR+SER	Transient, search signal. Search: "H", Still:"M" (input)
79	O	H	SLOW BRAKE	Frame advance recording/playback capstan voltage control
80	O	–	IRRDPG	Test pin. To make sure of cylinder FG input.
81	O	–	SSB DATA (F SW CONT 2)	Unused
82	O	–	NARROW (F SW CONT 3)	Unused
83	O	–	IRRCTL	Test pin. To make sure of CTL input.
84	O	–	IRRCFG	Test pin. To make sure of capstan FG input.
85	I	L	EST	If "L" is input from sensors on the mechanism, the current mode is released. Both sensors detect each tape end: If "L" is input from both sensors, detection decision is that a cassette has not been inserted.
86	I	L	ESS	
87	I	PULSE	PFG	Unused
88	I	PULSE	T. REEL	The period of take-up reel pulse is measured to detect whether slack tape has been taken up: If not, the mechanism will stop. Supply reel pulses are used with take-up reel pulses to calculate the remaining tape time in the FF/REW modes.
89	I	PULSE	S. REEL	
90	O	PULSE	CS SUB	Chip select to the sub-microprocessor
91	O	PULSE	FLD CS	Chip select to the fluorescent display driver (FLD)
92	I/O	PULSE	I2C DATA	I2C communication data signal
93	O	PULSE	I2C CLOCK	I2C communication clock signal
94	O	H/L	V. CAP. CONT	Sets the voltage of the capstan motor in the PB, FF/REW and SLOW modes.
95	O	–	CLK	Unused
96	I	–	S DATA IN	Unused
97	O	–	S DATA OUT	Unused
98	O	PULSE	FLD CLOCK	Clock for serial data output to sub-microprocessor and FLD.
99	I	PULSE	SUB DATA IN	Data input signal from sub-microprocessor.
100	O	PULSE	FLD DATA	Serial data to sub-microprocessor and FLD.

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VT-L1200E TK No.8806E AV Consumer Products Division, Tokai

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